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TRAUMATIC TETANUS CURED BY NITRITE OF AMYL.

BY A. LAWSON, M.R.C.V.S., MANCHESTER.

THIS remedy being new, I think the following particulars will be interesting to the members of the veterinary profession, and I hope some of them will give it a trial.

On the 1st of February I was hurriedly called to see a valuable brown carriage-horse, six years old, belonging to a gentleman in one of the suburbs of Manchester. The animal had been injured by a piece of glass, which penetrated the outer wall of the near fore-foot some three weeks previously; and little or nothing having been thought of this, it was treated as a simple wound, being poulticed for a few days and afterwards the tincture of benzoine applied several times. The owner imagined it was healing all right. However, when I saw the horse, I immediately diagnosed the case to be one of Traumatic Tetanus. *Symptoms:* a flow of saliva from the mouth; nostrils dilated; nose protruding; muscles of the back particularly rigid; tail elevated; bowels constipated; breathing accelerated; pulse 48; and the jaws slightly movable,—so much so that I could open the mouth about three inches; the

membrana nictitans was pushed more or less over the eyes, on slightly elevating the head. The horse had eaten nothing that day, and the appetite was entirely gone. After considering the case well, I determined to take the opportunity of at once relieving the bowels, by administering an aperient, and accordingly gave spirits of turpentine, ℥ij.; linseed oil, Oj. I had the box darkened, as the horse was very nervous, and strictly charged the groom to keep him perfectly quiet and allow no one to go near him. *Diet:* well-boiled meal gruel mixed with bran.

February 2nd.—Tetanus more marked; flexor and extensor muscles being equally and strongly contracted, the whole frame in a state of tension; pulse 48. The patient showed a desire for food, and sucked a quantity of gruel and bran, although the muscles of the jaw were more rigid than the previous day, and I could barely open the mouth an inch. The bowels, I was pleased to learn, were acting. It being impossible to administer medicine in the usual way, I gave him ℥iv. chloral hydrate *per ano*, dissolved in a pint of warm water, using the funnel-shaped enema tube, which does not produce the shock to the system which the ordinary enema syringe does, and in my opinion is to be preferred. About two hours afterwards, the tetanic symptoms not having abated, I resolved to try the nitrite of amyl, which is a powerful nervous sedative. Its action had been already tried on the rabbit and frog, and latterly, in a few cases, on the human subject, with success, by Dr. Richardson, of London. Not knowing the dose for a horse, I injected xx. minims subcutaneously, and gave the same instructions as to quietude. In the evening the muscles of the jaw were more relaxed, and the animal sucked gruel and bran eagerly. I repeated the nitrite of amyl, xx. minims, *with marked benefit.*

On the 3rd, the tetanic symptoms were more aggravated; the pulse was still about 48; the bowels acting slightly; appetite diminished. I repeated the dose of amyl, which seemed to give momentary relief. In the evening the patient was evidently better, though the appetite was indifferent; the pulse was about the same. Owing to my ignorance of the exact effect of the amyl, I was

afraid to administer more, so I gave him an enema of the hydrate of chloral, ℥ss. in a pint of warm water. From the 4th to the evening of the 8th he remained much the same, partaking of meal gruel and bran; and I continued to inject the amyl twice a day. Early on the morning of the 9th I was summoned hastily to see the horse, which was said by the messenger to be down in the box and dying. I found him stretched out on the floor, perspiring profusely, and every muscle of the body appeared to be spasmodically affected; the nostrils were dilated; the breathing very much accelerated; and, at the first glance, I feared the worst. As it appeared to be a case of life or death, I ventured to inject an increased dose of the nitrite of amyl, and accordingly gave him xlv. minims. The effect seemed to be marvellous, as the patient, with slight help, in five minutes afterwards rose to his feet, micturated, and began to take some bran and gruel; the muscles of the body being much more relaxed. During the remainder of the day he progressed favourably. From the 9th to the 21st I injected subcutaneously, every day, xlv. minims of amyl, with increased benefit each time, discontinuing it on the 22nd. Every day afterwards he gradually but slowly improved, and is now being occasionally used by his owner.

EYE LESIONS.

BY PROFESSOR WALLEY, VETERINARY COLLEGE, EDINBURGH.

I OBSERVE in the *Veterinary Journal* for March a communication from Mr. Robertson, of Kelso, in reference to a case of Corneal Dermatoma in the ox. As he justly remarks, these cases are rare; and during a long experience I have only met with two specimens of this abnormality. One of these specimens was given to me by Mr. Lancelot Barker, of Skelton, then a student at this College. The other I obtained at the Edinburgh abattoir. The latter I exhibited to the members of the Scottish Metropolitan Association, and I have much pleasure in forwarding a very beautiful pencil sketch of it—made at the time by Mr.

Vaughan—for publication (fig. 9). Clinically, these growths are not of much consequence; they are more interesting as showing the close relation which exists between the conjunctival and corneal structures and the skin.

FIG. 9.
Corneal Dermatoma.

I also forward for publication (if you think them sufficiently interesting), rough pencil sketches of two other uncommon oph-

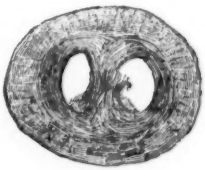

FIG 10.

Iris of a cow. Laceration of free border and adhesion of ruptured portions to each other. The two light and somewhat oval spots represent the portion of the pupil uncovered by the torn iris.

thalmic lesions. One (fig. 10) is a representation of laceration of the iris, with adhesion of its free borders, the adherent portions dividing the pupil into two nearly equal parts. The sketch is taken from the eye of a cow, in which animal the lesion was bi-lateral. As illustrating the well-known saying that rare cases seldom occur singly, I may mention the fact that I detected the same lesion (at about the same time) in the eye of a horse which was under the care of my colleague, Mr. Baird, for lameness.

Both these cases, I am of opinion, had originated either in

direct injury, or from adhesion of the free borders of the iris, as the result of inflammation.

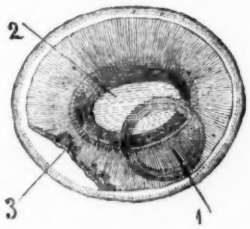

FIG. 11.

Eye of a cow. 1. Displacement of lens into the anterior chamber; 2. Pupil opaque and occluded by thickened hyaloid membrane; 3. Rent in attached border of iris.

The other sketch (fig. 11) illustrates a case of dislocation of the lens, which I recently brought before the notice of the members of the Scottish Metropolitan Association, and the particulars of which were published in the *Veterinary Journal*.

OBSTETRIC CASES.

BY C. W. GREGORY, M.R.C.V.S., BRISTOL.

PARTURIENT HÆMORRHAGE.

THE subject of this case was a heifer in her first calving; she had labour pains for two days, and for eight hours previous to my seeing her they were severe. The vagina was swollen and dry, barely admitting the hand. I found it a breech presentation, and the calf dead. I pushed the calf forward, and endeavoured to recover one hind-leg, but there was not sufficient room to raise the foot. I then fastened a hook into the pastern, and again pushed the calf forward, and succeeded in bringing back the foot; securing it with a cord, I did the same with the other foot. The heifer being exhausted, I gave her a stimulant, and then put three men to pull away the calf, but failed to get the breech into the pelvis. My advice was not to delay the operation, but to employ steady and continuous traction. This was carried out by the three men for about forty minutes, when

the calf came away, and was followed by considerable arterial hæmorrhage, which proceeded from laceration of the infero-lateral portion of the *os uteri* and vagina. I had cold water sprinkled over the croup, and a towel wetted with cold water was passed along the vagina into the uterus. The bleeding, however, continued, and in about ten minutes I removed the cloths; but finding the placental membranes had been between them and the injury, I re-applied the cold-water cloth—carefully placing it on the injured part; in this way I succeeded in stopping the flow of blood. After giving the heifer a dose of brandy, and clothing the body well, I left her, with orders to continue sprinkling cold water as before for thirty minutes, and repeat it should bleeding recur.

The following day the heifer looked cheerful, was comfortably warm, had eaten a little hay, and was chewing her cud. I was told that she had cleansed, and had also expelled the cloth about two hours after it was applied; but there was no recurrence of bleeding. She steadily progressed, and entirely recovered without any further interference.

PROTRUSION OF THE FŒTAL LIMB DURING GESTATION.

The subject of this case was a Guernsey cow, about ten years old. She was at grass, and due to calve in four weeks. She appeared to be in good health and free from pain, notwithstanding that the hind-leg of a fœtal calf protruded about six inches beyond the vulva. I passed my fingers into the vagina, but finding no appearance whatever of the approach of parturition, I advised no interference except giving a mild aperient; but should any labour pains appear, I was to be informed. I saw her at intervals during the next fortnight, but she continued well. The calf's leg had decayed and dropped off. I still refrained from interference, and when the termination of gestation had arrived, she calved without assistance, and afterwards did well.

[This is, so far as our experience and reading go, an extraordinary and unique case, and, from several points of view, difficult of explanation. Information as to the condition of the calf when expelled, as well as that of the fœtal membranes, would be valuable.]

VETERINARY TOXICOLOGY: LEAD POISONING IN THE HORSE.

BY JOHN GERRARD, M.R.C.V.S., MARKET DEEPING.

ON the 6th of March last I was called by Mr. J. W. Greswell, M.R.C.V.S., Peterborough, to assist him in investigating what he thought was a case of poisoning of two cart-horses, one of which was dead, and the other not expected to recover.

On arrival, I found a fine five-year-old mare, dead about thirty-five hours, of which he had made an examination, but without being able to say definitely what was the cause of death, as the *post-mortem* had been made late on the previous evening, which was dark.

The other, an aged cart-horse, lay extended on his side in the crewe-yard, at times attempting to get up, perspiring and panting; or, as the owner, Mr. Edward Cave, Newborough Fen, expressed it, "blowing like a broken-winded horse." He was quite unable to arise, or to stand when lifted, and seemed paralysed in his fore-extremities. Pulse 70, and full; breathing very fast, with nostrils much distended, showing the mucous membrane injected and dry; the buccal membrane being moist, from a quantity of frothy saliva dribbling from the mouth, as if the creature were salivated; bowels constipated, and what excrement was removed by hand was coated with mucus; bladder distended as felt *per ano;* temperature 101° Fahr. This one had not been affected until after the death of the mare, which confirmed his suspicion of poison; but as no distinct traces of any toxic agent were observed, he was at a loss to account for it, and rather suspected the administration of antimony. From the known physiological properties of this drug on horses and cattle, and the difficulty of procuring it in poisonous doses from any chemist, and also from the symptoms exhibited by the horse yet living, I could not believe that antimony was the cause.

Taking the symptoms exhibited by both animals into account, and the absence of distinct traces of irritation of the stomach and intestines in the mare, as also other peculiarities in the

appearances observed, I came to the conclusion that lead was the toxic agent.

On inquiry, we found that, about a week previous to the occurrence, some alteration had been made in the water supply —a pipe being attached to a pump a little distance from the crewe-yard to fill the trough therein. This trough, too, had only been put down about a fortnight before, and was newly painted over with red lead. It was of large dimensions, as it had to supply four departments into which the crewe was divided by strong paling, with this trough placed in the centre. In fitting up the piping (which was of iron), a good deal of white lead had been used about the joints; and when the trough was emptied of water, we could pick a quantity of the white lead out from below the plate attached to the pipe at the bottom of the trough; and all around the place where the water flowed into the trough, the paint had been gnawed from the bottom, in the horses' compartment of it.

The end of the pipe at the small trough attached to the pump, had a quantity of white lead about it when examined; and the execution of the work seemed altogether so carelessly done, as to warrant the inference that some of the white lead used in the fitting and soldering might have dropped into the pipe, and been forced into the trough in the yard. Another circumstance I may mention here, relating to the quality of water used, as a certain statement has been made by other parties, which I shall notice hereafter. The water in the pump was what is known as "hard water"; but as the supply had run short, it was supplemented by rain, or surface water, from a cask for several days before this occurrence.

The owner and horsekeeper admitted that the whole team of four horses had not done well for a few days previously; they had fallen off in their appetite, and appeared to perspire readily. The prominent symptoms, when first observed by these men, were weakness and inability to control their movements, with profuse perspiration, and a straddling and stumbling gait. The mare seemed as if weak across the loins, and used her hind-legs very imperfectly; while the fore-limbs of the horse were paralysed, and he knuckled over at the fetlocks when he

attempted to rise. He died on the morning of the 7th, and the following were the appearances twelve hours after death :—

The muscular system was blanched and bloodless, and the blood was everywhere fluid, with no tendency to coagulate on exposure. The most marked appearances on laying open the abdominal cavity, were black spots and streaks on the mesentery and intestines, which, when closely examined, were found to be ecchymoses of the fluid venous blood, and which, in some of the viscera, had a marked tendency to decomposition. They were principally confined to the small intestines and mesentery—the large intestines being only slightly affected. The stomach contained a small quantity of food, but little fluid; and the mucous membrane had a puffy, swollen appearance, with several congested patches towards the pylorus. The mucous membrane of the small intestines bore traces of increased vascular action, while that of the colon and cæcum were highly inflamed. In them we found a number of pieces of sheet lead, and a few of zinc, with the usual quantity of sand and silt found in these compartments of the intestines of cart-horses. The spleen was slightly enlarged, and emphysematous from decomposition; which condition was also observable in the tissues surrounding the kidneys and the abdominal organs generally. The liver was large, soft, and full of blood, and the large bloodvessels along the course of the abdominal cavity were also full of fluid blood, and their inner coats stained with it. The lungs were large and full of blood, which flowed freely on section, and the trachea was filled with frothy spume. The heart was soft and flaccid, with a small quantity of fluid, frothy blood in both ventricles; and the peculiar *post-mortem staining* observed in the large bloodvessels of the abdominal cavity, was well marked on the endocardium—contrasting strongly with the ecchymoses, so constant in the same situation in anthracoid diseases. The brain and spinal cord were not examined. I may mention that the various organs of the mare, which had been preserved for analysis, showed much the same appearances, and the same marked tendency to decomposition. In neither of the animals, however, was the blue line on the gums observable, which is generally considered symptomatic of lead poisoning. From

these symptoms and appearances, and in the absence of positive proof in the shape of analysis, we concluded that death was caused by the ingestion of lead, either in solution in the water, or picked up from the bottom of the trough in the shape of paint, or the white lead so incautiously used for the joints and fittings by the workmen. The owner, however, could scarcely believe the quantity to be got from such a source sufficient, and was rather inclined to think the source of the evil was in the maize, which they had begun to feed the horses on about a week before. We examined the maize very carefully and minutely, but without being able to detect the smallest particle of lead, or any other agent capable of giving rise to such symptoms. Nor could he see how the cattle in the other part of the yard, which had to drink of the same water, and had access to the trough, were not affected. This, however, was easily explained by the fact that they had a plentiful supply of roots, and did not require much water; and also because the part where the white lead was used in joining the pipe to the trough was in the horses' compartment, and could not be reached by the cattle, and it was only in this compartment that the paint was gnawed from the bottom.

His doubts were increased by the opinions of a local philosopher of the inductive school, in the person of an M.R.C.V.S. of Peterborough, who volunteered the statement that "it could not be lead, as *it* was insoluble in water, and that it must be arsenic, because they had had two calves poisoned by drinking out of a vessel in which had been some poisoned wheat;" and thus, with one fell swoop of inductive philosophy, was our deductive hypothesis completely upset.

I send you these particulars in order to give our mutual friend an opportunity of examining the facts, and thus the better to enable him to express an opinion; so that the readers of the *Journal* and ourselves may have the benefit thereof, or an explanation of his conduct in the matter.

I may mention that the other horses looked dull and dispirited for a few days, but ultimately recovered. They had a great tendency to gnaw the bottom of the trough when let loose in the yard. Two other horses were brought in, and the whole

were fed on the maize, which was newly brought home. They were also supplied with water from the pump in buckets, and up to this time (April 7th) nothing unusual has been observed.

OVARIOTOMY (SPAYING).*

BY W. G. BATES, VETERINARY STUDENT, TORONTO VETERINARY COLLEGE.

THIS is an operation which is frequently performed, yet few veterinarians seem to have paid any particular attention to it; and as it is an operation which any of us at any time may be called upon to execute, I do not think it out of place to introduce the subject, as one worthy of due thought and thorough discussion.

The operation is performed quite extensively in my native State, and I think in the majority of the States of the Union. In Missouri it is generally confined to swine, and I believe that I should be within the bounds of truth if I said that fifty per cent. of the female swine reared in that State, solely for the butcher, are spayed; and twenty-five per cent. of the breeding sows, after they have fulfilled their duty as such, undergo the same operation. In swine the operation is performed for the purpose of making them grow and fatten better, by destroying all sexual desires; for weeding out those that are unfit for breeding purposes; as well as to prevent the production of more pigs than one can rear,—since many farmers allow the boar, or boars, as the case may be, to run with the other swine. As I intend to speak more particularly of the operation in cattle, it will suffice to say, that the modes of operating are similar, and of these I will speak further on.

Ovariotomy is performed in cattle for the same purposes as in swine, yet sometimes for another; though I believe that the latter, as a whole, has never proved very satisfactory: that to which I refer is the perennial secretion of milk. Undoubtedly, the operation is attended with very satisfactory and very profit-

* Read at the Society in connection with the Ontario Veterinary College.

able returns when it is confined to heifers unfit for breeding purposes; since it is succeeded by increased growth, and also by better fattening tendencies. And why? Because all sexual desire is stopped, which desire tends in a greater or less degree, through excitement, to destroy tissue, as well as to prevent the building up of the same, by, I might say, twenty-four hours every three weeks spent in roving, lowing, etc., if alone; if with other cattle, which is generally the case, even worse; and this, as we know, also interferes more or less with the rest of the herd. When limited to inferior animals the operation proves profitable, by being a sure preventive of propagation, since bad stock is never profitable stock. So that preventing propagation, and producing better growth and fattening properties, makes judicious culling, if done with this view, profitable as well as necessary. This is not all: by the increased constitutional tendency of the animal to produce fat, we obtain a more nutritive, tender, and juicy quality of meat, as well as the liability to disease of the generative organs being reduced to its minimum.

I have often seen spayed heifers at three years old bring nearly as much for beef as open ones at the same age would as breeding animals; though the latter were far their superiors two years previous; and even more than they would have brought had they also been sold to the butcher—simply due to better growth and fattening properties, combined with a better quality of meat. From this I do not wish you to infer that extra heifers should be castrated, but only the inferior ones; since they will prove more profitable in that way than by being allowed to generate their kind of offspring, or by keeping them for the butcher, without the operation having been performed; while in the case of the extra heifers, you would be destroying those which would prove more profitable as breeders.

The perennial secretion of milk is a subject upon which many differ. Some hold that the flow of milk may be continued for two, three, or even up to four or more years, whilst others deny this; yet most admit that the secretion is continued for a somewhat longer time than usual. Some maintain that the quantity, as well as the quality of the milk, is increased; whilst others, admitting the perennial flow, deny this statement, and *vice versâ*. Others

admit the increase of quantity and deny it of quality; whilst more admit the increase of quality and deny it of quantity. From what I have been able to gather, chemistry seems to substantiate the last statement—increase of quality generally at the sacrifice of quantity. The increase of butterine, caseine, and milk-sugar sometimes approximates one-third.

Last summer, whilst talking with a gentleman of Lafayette Co., in regard to the perennial secretion of milk supervening upon Ovariotomy, he made mention of a case in Cooper Co., Missouri, belonging to a Mr. Tucker. The gentleman of Lafayette said that he was at Mr. Tucker's farm in 1865, and while speaking to him in regard to a certain cow on the farm, he was informed that she was castrated, and that she had been giving milk for four years,—having been spayed as soon as she had recovered from the effects of parturition. My informant also stated that Mr. Tucker told him he had seen no apparent change in either quantity or quality of the milk, after a few weeks had elapsed; it of course varying now and then, owing to food or change of weather.

To sum up, in short, with regard to the period when the operation may be performed, I think myself justified in recommending it in a good milker when a better quality of milk is desired—as for sickly people or the like,—in an animal that has an inordinate or constant desire for the bull, without the capacity of becoming impregnated,—or when disease is present and it is necessary to remove the ovaries; also, in poor-feeding cows when it is the intention to fatten them after the flow of milk has ceased; as well as (as already mentioned) in the younger ones that are not intended for breeding purposes. In none other than the above would I advise the operation to be performed in a fine milking or beef-producing strain, since, in either case, it would tend to pluck the bud that blooms the rose.

THE OPERATION IN CATTLE.—The modes in which ovariotomy is performed in cattle are as follows, which I will denominate according to the region selected as *Inferior Abdominal*, *Lateral Abdominal*, and *Vaginal*; though Mr. Percivall, in his Anatomy, when treating of the ovaries in the mare, says, "Where it is one's intention to remove them, the incision should be made

along the crista of the ilium," etc. I cannot accept Mr. Percivall's advice as to this region, even in the mare, letting alone the cow —in which, owing to the great development of the transverse processes of the lumbar vertebræ, it would be inadmissible.

The *Inferior Abdominal* operation I cannot advocate, since, besides other abnormal consequences likely to follow either operation, we may, and, in fact, frequently do, have Hernia. The incision extending from behind forwards, large enough to admit the hand, is made, in the heifer, about three inches anterior to the *pubis* and to one side of the *linea alba.*

The *Lateral Abdominal* operation—that which is most generally adopted in the Western States—is performed as I here shall endeavour to explain. We prefer favourable weather in the spring or autumn. The animal to be operated upon is put off food and water for twelve hours—perhaps longer; she is then thrown on her right side, the fore-limbs being well secured in front, the head held down, and the hind-legs stretched backwards and also well secured. The incision is made from above downwards, large enough to admit the hand, beginning about an inch and a half anterior and an inch inferior to the anterior iliac spine: remembering to have first clipped or shaved off the hair, and cleansed the skin by means of a brush or water if necessary. Knowing the situation of the ovaries—*i.e.*, under the antero-external portion of the transverse process of the sacrum, and of course held pendulous by their ligaments—the hand is introduced inwards and backwards, the left ovary secured and drawn out (the ligaments allowing this), and excised with the knife in the heifer; but in the cow better removed by torsion. The hand is again passed within, and directed under the anterior portion of the sacrum, against the inferior surface of the rectum, and the right ovary secured and removed in the same manner as the left. Here we frequently experience some difficulty, owing to the ligaments not allowing the ovary to be drawn outside the incision; yet we generally succeed in drawing the ovary out; but, should we not be able so to do, we can succeed in detaching it by manipulation and the use of the thumb-nail. In a case of this kind, as well as in other cases, I believe that the écraseur would prove a very useful instrument, and should I ever perform

ovariotomy again I will give it a trial. The manner in which I would advise the écraseur to be used, is for the operator to secure the ovary by the means already mentioned; then have an assistant to insert the instrument, the chain or wire of which, as the case may be, the operator succeeds in passing over the ovary; he should now grasp the ovary, and order the assistant to work the instrument. After the ovary is detached, the écraseur should be withdrawn, and then the hand with the ovary. Sew up the incision with an interrupted suture, and treat as a common wound.

In making the incision, many prefer making it on the right side. Professor Law recommends the same, I should judge, by directing the operator to stretch the animal on her left side. I prefer making the incision on the left side; as then one has no internal organs to contend with, save the rumen, which, if slightly cut or injured—though there is no necessity for so doing,—would be the least likely of any of the digestive organs to give rise to serious results. Evil results are very rare, though Peritonitis may occur from rough handling, exposure, etc., as well as other conditions liable to follow any wound.

The operation *per vaginam* is a more scientific manner of operating. It cannot be performed in the smaller animals, nor in the heifer; and as to the operation in the cow, I doubt whether it is attended with much better results than the lateral abdominal operation. It is recommended to be performed by making an incision though the superior wall of the vagina, near the *os uteri*, and then, introducing two fingers, to grasp the ovary, withdraw it, and remove by a torsion instrument. I here again believe that the écraseur would be very useful, as well as more easy to operate with.

In sows and bitches the operation can only be performed by one of the abdominal methods, and it is needless to say which I would recommend. The incision is made somewhat as in the heifer, yet only large enough to introduce two fingers, with which the ovaries are sought, withdrawn, and then excised by means of the knife in the young; while, in matured or old animals, the écraseur or torsion instrument should be used. Sometimes, owing to the difficulty of reaching the right ovary,

it may be necessary to get hold of the right cornua of the uterus, and withdraw it until you succeed in securing the ovary; after this is detached, the horn is returned, and the wound treated as in the heifer.

TRANSVERSE PRESENTATIONS IN PARTURITION.

BY A. E. MACGILLIVRAY, V.S., BANFF, N.B.

OBSERVING in the *Recueil de Médicine Vétérinaire*, for 15th January last, reports of cases of Transverse Presentations by MM. Recordon and Wernert, and subsequent discussion as to the latter communication, and considering the want of a *post-mortem* examination in proof of such presentations, I have thought it necessary to publish the following case and autopsy.

On the 25th of January last, I was requested to attend at a farm, some seven miles away, in reference to a cow which was showing slight signs of parturition and great uneasiness. On arriving at the farm I found the cow, a large, well-built, five-year-old animal, very weak, listless, and uneasy; appetite and rumination gone; abdomen immensely distended, and fœtus to be felt in both flanks. The poor animal persisted in standing, being evidently afraid to lie down. There were no calving pains, but a slight discharge from the vagina.

My diagnosis was—A serious case of *Hydrops Amnii*, and twins present.

My prognosis was—A very doubtful case, but possibly it might do well.

Treatment.—I immediately made an exploration *per vaginam*, and found the *os uteri* partially relaxed, in so far as to allow the entrance of three of my fingers. Resolving not to employ any force, I applied a simple emollient to the partly dilated *os uteri*; gave my patient a strong stimulant, and then left her alone for two hours. At the end of that period I again examined the cow *per vaginam*, and found the *os uteri* much dilated, my hand easily passing into the uterus. I now ruptured the fœtal envelopes, and an immense discharge of fluid (very pale straw-coloured) took place. This discharge continued pretty

abundantly for nearly half an hour, when I again introduced my hand into the uterus, and found a living fœtus within reach. It was a hind-quarter presentation, lumbo-sacral position. The calf, although of very small size, owing to the absence of uterine contractions, required considerable traction to take it away; it was alive and did well.

After the extraction of the calf, the cow lay down, and large quantities of fluid continued to escape from the uterus. On exploration, I could find no part of any second fœtus; my hand merely moved about in a great cavity—namely, the over-distended uterus. Being almost confident that there was a second calf, however, I gave the cow another strong stimulant, and again left her for two hours.

On returning after two hours, I found my patient very weak; she would scarcely rise; no appetite, but took a little warm drink. I again explored *per vaginam*, but my hand came in contact with no part of a fœtus; the uterus, however, still remained widely distended—there being no appreciable signs of the contraction of that organ, which usually takes place shortly after delivery. In fact, the cow never had a proper calving pain from the time I saw her, whatever might previously have been seen. There was still a considerable quantity of fluid escaping from the uterus *per vaginam*, said fluid being now lighter in colour and thicker in consistency.

I had my patient removed into a roomy place by herself; and, having ordered more stimulants, I left her for a night, leaving strict injunctions to watch her closely.

She gradually sank, and died next morning, some nineteen hours after I first saw her.

Autopsy.—Two hours after death I made a *post-mortem* examination. I had the cow placed on her back, and then made a sweeping crescentic incision from the right flank directly across the abdomen to the left flank, just about midway between the udder and sternum; thus at once laying open the whole abdominal cavity. At first sight the abnormally enlarged uterus appeared to occupy the entire abdomen, so much was it distended. It lay on the floor of the abdomen, stretching from side to side, and much resembled an immense paunch, since,

owing to the great distension, almost every appearance of the *cornua uteri* had become obliterated. On cutting through the attenuated uterine walls, a vast amount of fluid escaped; this was the more astonishing, considering the immense quantity which had been discharged *per vaginam.* The absence of uterine contractions, however, and the fact that the fluid collection was alveolated and cellulated (as mentioned in Fleming's *Obstetrics*, page 175, and Saint Cyr's *Obstetrics*, page 160), will account for its not having entirely escaped from the uterus.

As presupposed, I found a second fœtus *in utero;* it lay right across the uterus *horizontally*, from side to side as regards the cow; its back was presented to the pelvic inlet, and its two fore and two hind extremities were folded on its belly and faced the *fundus uteri:* in fact, the presentation was truly transverse, being the Dorso-lumbar, and the left Cephalo-ilial position.

The second fœtus was double the size of the first, and had evidently been dead for a long time. It appeared to be more than fully matured, having head and teeth of great size; while the first and living fœtus was very small in size, and looked like an eight months' calf. There was no watery infiltration nor gaseous distension about the dead fœtus. It lay close to the floor of the abdomen, and well forward; and from its position could evidently never have been reached by my hand. Besides, owing to the absence of any uterine contractions, from the over-distended and consequently attenuated state of the uterine walls, the dead fœtus had never been moved from its low (transverse) position, so as to come within reach of my hand and arm introduced *per vaginam.*

So much distended and attenuated were the walls of the uterus, that I am confident the least rough usage of the mother would have caused their rupture, and thus allowed the escape of the dead fœtus into the extra-uterine abdominal cavity.

The transverse presentation (dorso-lumbar), left Cephalo-ilial position, in this case was clearly indisputable; and more than this, however, from the semi-gelatinous and alveolated nature of the surrounding dropsical deposit, and the inertia alike of the fœtus and uterus, it cannot be doubted that this transverse position must have existed for some considerable period. A

living mal-postured fœtus during violent uterine contractions may, and often does, alter its position; but in the case of a dead fœtus and the entire absence of uterine muscular force, we can only expect to find the creature in such a position as it must have occupied for a considerable time—*if not from the first.*

Transverse presentations may, therefore, be deemed provable by *post-mortem* demonstration.

I cannot conclude my remarks on this case, without calling attention to the difference between the fluid evacuated along with the first (and living) fœtus, and that found around the second (and dead) fœtus. In the former it was straw-coloured and without any trace of alveoli or celluli; while in the latter it was quite clear and glistening, and plainly held together in divisions—namely, alveoli or celluli: bearing, in fact, a strong resemblance to the vitreous humour of the eye. From these facts, I am inclined to suppose that the *Hydrops Amnii* was confined to the second or dead fœtus, and very likely commenced after its death *in utero.*

On the 5th May, 1876, I received a very express summons to attend a mare in foaling, at a farm in this district. I made all haste to the spot, and on my arrival found *all the four feet* of the fœtus protruding from the vulva! Fortunately, however, no one had been allowed (as is only too common) to touch the mare; so I had the first and best opportunity of exercising my skill on what seemed to be a serious case.

On exploration and very careful examination, I found I had to do with a transverse (sterno-abdominal) presentation, exactly similar to that represented at page 485 of Fleming's *Obstetrics.* The fore-part and head of the fœtus were well down, and the head beyond reach; the hind-part and the tail were placed in the lumbar and sacral region. After consideration, I resolved to take away the foal by the hind-quarters, if possible in the lumbo-sacral position; and with a view to this, I immediately corded both hind-legs above the fetlocks. Having done so, I then got two strong men to lay hold each of a fore-foot, and force, with all their might, the fore-extremities back through the pelvis into the abdominal cavity. The mare being very *roomy,* and foaling having only recently commenced, this retropulsion was in a short

time successfully accomplished; and the traction of three men was then all that was necessary to draw away a living foal!

I confess I was somewhat astonished, as well as extremely pleased, at the simplicity and ease with which this delivery concluded, having seen a good many very untoward cases of a similar description. No doubt, I was all the better for the absence of the (by no means uncommon) enterprising and all-powerful empiric, who *will* pull at the first thing he gets hold of!

[Goubaux, Professor of Anatomy at the Alfort Veterinary School, has for many years contended that the transverse position of the fœtus in the uterus is impossible—notwithstanding the cases recorded, and in which veterinary obstetrists have insisted on meeting with this malpresentation. In our "Text-book of Veterinary Obstetrics" we have given what might be considered abundant evidence of the fact that not only is such a position possible, but also that it is not so very unfrequent, particularly in the mare; and we have ventured to hint at the reasons for this. Another instance, occurring since this portion of our work was printed, is published in the *Archives Vétérinaire* for April (10th) last. This happened in the practice of M. Chédhomme, veterinary surgeon at Vibraye, and the animal was a mare. It had been in labour since the previous evening, and Chédhomme found it standing, manifesting symptoms of slight colicky pains, and the four limbs of the fœtus protruding from the vulva as far as the lower third of the cannon bones. An exploration discovered the foal to be lying transversely to the long axis of the uterus, and slightly oblique downwards from left to right, with the fore-quarters in the left flank of the mother and the hind-quarters in the right flank. The hand could only touch the point of the shoulders and the stifles; the head could not be reached. Extraction was effected while the mare lay on the left side. The pasterns of the fore-limbs were corded, and assistants pulling at one of these at a time enabled Chédhomme to amputate them at the knee. The front part of the fœtus was then pushed towards the fundus of the uterus—this part of the operation being greatly facilitated by

placing the mare on its back, and raising the croup by ropes attached to the hind-legs and passed over a beam. By this means the position of the fœtus was converted into a posterior one, and the croup of the mare being lowered, delivery was accomplished by attaching cords alternately to the pasterns and hocks of the foal, by which traction was made; and this, combined with the expulsive efforts of the mare, soon resulted in birth.

Goubaux makes some comments on this case, and confesses that he is still unconvinced, and that he continues to believe that the transverse presentation is not possible in the females of the larger domesticated animals (*Je continue à croire que la présentation transversale n'est pas possible chez les grandes femelles de nos animaux domestiques).* He adds, that though a fœtus presents by the four limbs, it does not follow that there is a transverse presentation. The fact that no visual demonstration of the existence of this presentation has been recorded, has been, of course, urged in favour of Goubaux's opinion, as no opportunity for a *post-mortem* examination appears to have occurred. Mr. Macgillivray merits our thanks for having set the question at rest so far.]

LOODIANA FEVER.

BY STEPHEN KNOTT, M.R.C.V.S., ROYAL ARTILLERY.

(*Continued from page* 343.)

IN my last paper I mentioned my opinion as to the "sanitary measures" to be adopted in this disease; but as I abridged my ideas possibly a little too much, I now add a few remarks to those already put forward.

I shall refer more particularly to the *post-mortem* business of animals that have died of this Fever,—and in the first place would suggest the advisability of having, in every military station in India, a spot selected for the burial of Loodiana cases only, where the dead ought to be carted prior to the *post-mortem* examination; and this idea of having this examination at the place of burial is set forth with the view of having the

area of infection reduced to a minimum, so that the blood material of disease may not be scattered about. Dead horses in India are generally buried in the jungle, or on some plain just outside the cantonment; and that is why I state that a spot ought particularly to be selected for the burial of those that die of this disease. At present they are buried here and there indiscriminately, and I believe that this course adds in time to the spread of the disease, for the following reasons:—Grass is brought into the troop lines that possibly may have been dug up where these horses have been buried, or close by—whereas, were one spot selected, and the grass-cutters warned not to dig root grass from or near that place, there would be the satisfaction of believing that no poisonous material was brought in with the grass or with the earth adhering to its roots. We, who have served in India, well know that grass-cutters will add so much dirt and rubbish to their bundle of grass (in spite of every fine and forfeiture of their day's wages), as will bring their bundles to the regulation weight of 40 lbs. or 50 lbs., according to the season.

There is again another precautionary measure which ought to be adopted: to guard against the disinterment of the bodies. The natives will invariably dig up the carcases of horses,—dead, no matter of what disease,—the "chucklers" or boot-makers in particular, because, in addition to the food, they have the hide for leather. I am under an impression that there is an order in India (very generally neglected, however) that the skins of horses that have died of Malignant Fever should be slashed in stripes, so as to prevent Mr. "chuckler" and others from digging up the carcase and skinning it.

As there is usually a cart and a pair of bullocks used for carting the dead for burial, I would suggest that the bullocks so employed should be isolated from those used for battery purposes, and the cart thoroughly scoured and disinfected after this service. With reference to horses in the sick lines suffering from this disease, I am of opinion that the dung and litter ought to be burnt, and not allowed to be mixed with that of healthy horses.

A few words about the troop lines. Would it not be advisable to have the troop horses removed periodically, and

encamped on some healthy spot, in order that in the meantime the lines could be renewed with fresh earth and thoroughly disinfected,—as, for example, drains cleaned, picket pegs removed, and the ground thoroughly dug up, as deep as the drain of urine and fæcal matter had penetrated? A great amount of percolation must naturally take place around a horse's picket peg, considering the number of hours the animal is standing there; the soil, moreover, is of such a porous nature that penetration to a great extent evidently exists. In order, therefore, to lessen as much as possible the evils which are likely to arise from this state of things, I would suggest that the foregoing precautionary measures be carried out systematically at certain times of the year—say, prior to the early and late monsoons—and I have no doubt the results would prove very beneficial.

Again, there is the manure to be taken into consideration. No accumulation in the dung pits should be permitted, and its eventual disposal ought to be satisfactorily accounted for, because of its generating power of producing bacteria.

As regards the water, horses are sometimes taken to a river to be watered, and in the rains the rivers generally overflow their banks to a considerable extent. The soil thus suddenly covered with water has been previously dried up with the hot weather, and, as a rule, all kinds of animals have been grazing there —sheep, buffaloes, herds of pariah pigs, etc.—and all the fæcal matter of these animals, besides quantities of decayed vegetable material, must contaminate the water very considerably. It would be wise, therefore, if strict precautions were adopted, so that horses would drink only from a part of the river where the water was flowing continuously, and not on any overflowing portion of the soil; but rather wade into the fresh water. The overflow portion of the river is to a certain extent stagnant; and here, owing to the filth deposited, the water is unwholesome and poisonous. The native horse-keeper, consequently, ought to be watched well, otherwise he would just as soon water his horses at this spot as anywhere else, doubtless from knowing no better. When on the march in India, at every camping ground we came to I took the precaution to ascertain from the "tahsildar," "kutwall," or head man of the village, where the

best water could be obtained, and after getting the desired information, rode off and saw it for myself. I consider this to be a very important item to be looked to when marching, as also the quality of the grass brought in by the grass-cutters, as they will often bring in a sour, rank, coarse grass, called "tank grass," instead of the "haryali" or proper "root-grass," which is more difficult to get at.

I ought to have mentioned in my first paper, with reference to horses in the troop lines, that when an outbreak did occur, many a valuable horse was saved by getting him under treatment in the early stage of the disease. This, however, could be done only by careful watching: by going through the lines often during the day, and thereby ascertaining at once if any were looking unusually dull. When this happened, the horse was examined to discover the presence of Fever symptoms,—such as a hot mouth, pulse quickened, as well as throat symptoms, etc. This was one order I gave to my farrier,—to watch them often and very carefully during my absence; and I am of opinion that many a horse was saved by this plan.

I mention my ideas in the hope that they may be useful to others, and especially to the young army veterinary surgeons; and having now written all I have to say on the subject of this disease, I shall, in conclusion, recapitulate my views on sanitary precautions.

Sanitary Measures.

All *post-mortems* to be made in one place.

Fæcal matter and litter of horses suffering from this disease to be burnt.

Horse blankets to be burnt, or disinfected and well washed.

Horse-keepers and grass-cutters attending to the sick to be kept away from the troop horses.

Decayed vegetation about the lines to be swept up and burnt, prior to the monsoon coming on.

Grass-cutters to be warned not to bring grass from where diseased animals have been buried.

Precaution against natives exhuming the carcases.

Bullocks that are used in carting away the dead to be isolated

from the lines and remainder of the bullocks. The cart to be thoroughly washed and disinfected.

Troop lines to be dug up periodically, and old earth carted away and disinfected, on principle, even if no disease has appeared.

No accumulation of manure to be allowed.

Careful supervision when horses are at water.

FATAL ULCERATIVE ENDO-METRITIS AND HÆMORRHAGE IN A COW.

BY G. GRAY, M.R.C.V.S., BAKEWELL.

THE uterus I forward for your inspection was that of a two-year-old cross-bred heifer, the property of Mr. Thomas Ashton, farmer, Rowland. The history of the case is as follows: The heifer being a strong healthy-looking animal, off a good sort for dairy purposes, the owner intended breeding from her, and accordingly she was put to the bull on December 30th, 1876. For a few days afterwards she strained at times, and ejected small quantities of blood. Very little notice was taken of this, as she otherwise appeared in her usual health. She was turned out with the other young stock, which were on pasture, with an allowance of hay twice a day. Nothing unusual was observed until February 14th, 1877, when it was seen that she was in œstrum; she was again put to the bull. The symptoms that had succeeded the first *coitus* now reappeared, but they were greatly aggravated; there was a continuous discharge from the vagina of a chocolate-coloured fluid, which had somewhat the consistency of cream. She strained frequently. The owner thought her "over-bulled," and took little notice of it, but turned her out. The symptoms continued much the same for four or five days; it then became evident that something was seriously wrong, as she was fast losing flesh. She was taken up and comfortably housed, her dietary looked to, and my attendance was requested on the 27th. On examining her I found the pulse more than 80, and weak; the temperature of the ears, legs,

etc., was normal, the conjunctivæ were pale, the eyes bright, the general expression excited and anxious, appetite good, bowels regular. She strained most severely at times, when a little blood would come away with the discharge. I prescribed tonic and anodyne draughts twice a day, linseed gruel to drink, with plenty of cake and good hay, and recommended her to be kept perfectly quiet. In two days the owner called to say she was much the same as when I saw her, only the blood came away in greater quantities, and on that account she was rather weaker. I saw her on the following day, March 2nd. She had passed so large a quantity of blood the previous night, that the owner quite expected to see her dead next morning. I found her down, and in a very anæmic state. I got her up, but she could scarcely stand. The anodyne treatment was continued, and I ordered stimulants. I considered local treatment of no avail, and gave little hopes of a recovery. She died on March 5th. I made an autopsy on the 6th, and found all the organs healthy, with the exception of the uterus; about two quarts of sero-sanguineous-looking fluid escaped from it while I was taking it out. With the exception of this fluid, I send the organ to you just as I found it.

Remarks.—I believe this affection is more commonly met with in heifers than cows, and, strange to observe, the animals that fall a prey to it are generally white or light roans (the case I have related was a white heifer). This fact has been observed by many. The symptoms appear shortly after being put to the bull. I shall be glad to have your opinion as to why white animals should be so prone to the disease.

[Professor Duguid kindly examined the organ, and has furnished the following statement:—"The uterus referred to presented externally the appearance and volume natural to the third month of gestation, with the fœtus lying in the left cornu. The *os uteri* was dilated, and protruding from it was an elongated piece of blood-clot about an inch in diameter; this was merely a portion of a very large clot, weighing over twelve pounds, and lying in the cavity of the organ. This mass of clot was in many places firmly adherent to the mucous membrane;

at other points it was breaking up. I am inclined to think, from my examination of the organ, that the heifer was pregnant and abortion had taken place; afterwards ulcerative Endo-metritis and hæmorrhage ensued as a result." We are unable to give any satisfactory explanation as to why white or light-coloured animals should be more liable to this disease than others.]

COMMENTARY ON MR. W. E. LITT'S CASE OF SO-CALLED "EMPROSTHOTONOS."

BY "PLEXIMETER."

HAVING carefully studied Mr. Litt's case recorded in last month's issue of the *Veterinary Journal*, I would, with all due respect to the contributor, offer a few remarks upon it. The case is one of great value to veterinary pathology, being altogether unique in our records up to the present time. There is an old saying, "*A place for everything, and everything in its place*": actuated with this feeling (a purely disinterested one), I should like to see this so-called case of "Emprosthotonos" put under the heading of its correct pathology.

Although Mr. Litt had the advantage of a second opinion in corroboration of his own, the diagnosis arrived at is open to very grave doubts; and when the symptoms of a somewhat rare disease, called by Mr. Moore and the late Mr. Haycock "*Hysteria*" (under the impression that it affected mares only), and since by others "Azoturea," are taken into consideration, the conclusions arrived at appear to me to be altogether untenable.

I will now make a slight analysis of the symptoms given in this case, and compare them with those of Tetanus. The first appearances mentioned are general stiffness, contraction of the abdominal muscles, and a gait suggestive of Laminitis; there was no constitutional disturbance, the appetite being good; but irritability of the bladder, with constant voiding of small quantities of urine, was a very marked symptom. The horse had been attacked from time to time with fits of clonic muscular spasm, alternated with complete intermissions, for three weeks; and

the medical attendant was inclined to think the disease was Rheumatism. On one occasion it was affirmed that the horse had had an attack of spasm in the morning, but was found by the surgeon looking as usual.

Rigidity and stiffness of the muscles, amounting in some instances to almost total paralysis, accompanied with fits of "*clonic spasm*," are constant symptoms of Azoturea. Irritability of the bladder, with continual ejection of small quantities of urine, and profuse perspiration, are also never absent. The disease even in its acute form is intermittent, more or less.

Now, in true Tetanus the spasm is not of the "*clonic*" character, but partakes strictly of that which is called "*tonic spasm.*" The spasm of Tetanus "*remits*," but never "*intermits.*" This fact alone incontrovertibly proves that Mr. Litt's case was not one of Tetanus at all; therefore Emprosthotonos is out of the question, for he says (to use his own words), "However, in about an hour's time, gradually, and as it seemed of its own accord, the spasm relaxed, and the horse resumed his ordinary appearance." It is needless to remark that a horse's ordinary appearance is that of health, and freedom from all disease.

The above is, I think, sufficient to preclude the possibility of the disease being Tetanus in any shape; but I will proceed a little further. All forms of Tetanus are preceded by or accompanied with *Trismus*—either partial or total—both in man and the horse; the eyes are sunk in their orbits through continuous spasm of the *retractor oculi* muscles; there is often an outward squint, the *membrana nictitans* is prominent, and is visibly implicated in the spasms, when fits of excessive tonicity develop a paroxysm.

The animal in question possessed perfect freedom of the jaws, and was said to take his food well.

The ocular and facial symptoms of Tetanus hold no place in Mr. Litt's communication.

The "tucked-up" appearance of the abdomen is merely a general symptom of many diseases, and of little diagnostic value in *special pathology*.

I am of the opinion that Mr. Litt's case was one of *Sub-acute Azoturea*, affecting the muscles of the fore quarters and extremities, also the sub-thoracic and sub-abdominal regions. Accepting

it as such, it is a highly valuable addition to the pathology of that disease,—the disorder, up to the present time, being only known to our books in the *acute* form, and as affecting the hind quarters and limbs alone. In acute cases the urine is highly coloured, of great density, and surcharged with urea and other effete products. In favourable cases, it yields to the influence of eliminatives in the course of from three to seven days. The urine in Mr. Litt's patient was not highly coloured, the case being of a *sub-acute* character; the quantity of "*materies morbi*" in the system being small, and their elimination by the kidneys consequently slower, therefore less striking to the observer. The kidneys perform their work well, and no symptoms of renal disease would be found in the urine, as stated by the contributor.

Again, in true Tetanus all the sphincters are involved in the spasm, the "*sphincter vesicæ*" notably so, micturition being rarely or never performed; whereas, in this instance, quite the reverse was observed.

These remarks are penned in a friendly spirit, and without the slightest desire on my part to give offence to Mr. Litt.

This phase of the above-mentioned disease (Azoturea) being unknown to veterinary pathology, I consider that good service has been done to the profession by recording it. I do not pretend to judge of cases I have neither seen nor heard described, but Mr. Litt has given such a graphic detail of this interesting case as to justify me in doing so: it having been my fortune to encounter several cases in the *acute*, and one in the *sub-acute* form—all affecting the posterior parts only.

AMPUTATION OF THE LIMBS OF ANIMALS.

BY R. G. WALTERS, M.R.C.V.S., NEWPORT, SALOP.

IN the *Veterinary Journal* for April I observed a case of amputation of the fore-leg of a cow, by Mr. Litt, of Shrewsbury. Having operated in such cases on six occasions—once on a pony, three times on cows, and twice on sheep—with equal success, it may not be uninteresting to the numerous readers of the *Journal* to know that amputation may be performed with

great advantage in many instances. The following cases will prove this.

Some fifteen or twenty years ago, a very good cow just calved, and a capital milker, fractured the radius above the knee—a compound comminuted fracture. I, with my father, suggested to the owner that amputation was the only means of saving the animal's life. We obtained the owner's consent, and operated in a similar manner to Mr. Litt, and with the same amount of success. The cow yielded a good quantity of milk all the summer, and made an excellent fat beast afterwards. Another case was that of a very favourite pony in foal, the property of a lady. This animal had one of its metatarsal bones smashed to pieces, and the owner being very anxious to obtain the foal from it, we amputated the leg immediately below the hock, and had a wooden leg fixed on the limb. The pony foaled, reared its colt, and this being the only motive for keeping it alive, it was then shot.

The next two cases were young cattle, about eighteen months old, one of which fractured the metacarpal, the other the metatarsal bone. Both limbs were amputated, and the animals were fattened and sold to the butcher.

I have also operated on two sheep, which did well afterwards.

I would, therefore, recommend those who meet with such cases, if circumstances are favourable, by all means to try the operation of amputating the limb.

AN EPIZOÖTY AMONG ASSES IN SPAIN.

BY A. H. THOMAS, M.R.C.V.S., DUBLIN.

DURING last summer and autumn an epizoöty prevailed extensively amongst asses in Spain, especially in the provinces of Murcia, New Castile, and Catalonia. The disease was of a septic nature, chiefly affecting the respiratory organs, and although almost universally prevalent amongst asses, rarely attacked horses or mules.

The particulars of several cases are published in *La Veterinaria*

Española—the disease being termed "Angina difusa Séptica," "Angina laringo-bronquial Aguda Epizoótica," and "Pleuroneumonia Gangrenosa," whilst one observer remarks that it agreed in many points with the catarrhal epizoötic fever described by Hering under the name of Influenza in the Horse. It had never before been observed in Spain, and was supposed to be caused by atmospheric influences.

CONGENITAL HEPATIC HERNIA.

BY HENRY SNARRY, M.R.C.V.S., SELBY, YORKSHIRE.

In May *Journal* I observe an article on the above subject by Mr. Kirk, and after reading it I am induced to submit to your notice the following case, which I think professionally will be beneficial, as it shows that animals may live to a good age without this pathological freak of nature interfering in any way with their natural health.

A few days ago I was requested to visit an aged cow, which had produced six or seven calves—the last one recently. Up to the time of the last illness of the animal in question, she had very good health, with the exception that for the last six or seven years she was troubled with a slight husky cough. Within a few minutes after my arrival she died, before I was able to do anything for her. The *post-mortem* examination showed great congestion of the brain, with effusion, which was the immediate cause of death. The floating colon presented a stricture about four inches in length, and would not admit more than one finger. The stomachs were healthy; the rumen contained a quantity of very coarsely chopped wheat straw. The cæcum was greatly disorganized, from inflammation, and tore very readily. It contained nothing but a large quantity of reddish-brown coloured fluid, in which floated thick bands of lymph. Shreds of lymph also adhered to the mucous membrane.

I was most surprised at the peculiar relation of the liver to the lung. I examined it very carefully, and found the right superior lateral ligament of the liver passing through an opening

in the aponeurotic portion of the diaphragm, and attached to the surface of the right lung. For more minute examination I cut away part of the diaphragm and portions of the liver and lung. The ligament could be moved backwards and forwards through the aperture very easily,—showing there was no adhesion of its margins; and from this fact I am convinced the Hernia was congenital. The fibrous band was very firmly adherent to the lung substance, and within its folds was a projection of the anterior surface of the liver, which was partly through the diaphragmatic opening. There was no adhesion of the liver itself to the lungs, neither was there any trace of inflammation, nor disease of any kind about the parts mentioned.

I should have been glad if Mr. Kirk had gone more fully into the minor details of his examination; we should then have been able to compare the cases. As you may notice, the animal which came under his observation was a young and healthy one, and that which came under my observation was old and diseased.

A RECORD OF A FEW CASES OF PURPURA HÆMORRHAGICA IN THE HORSE.

BY ROBERT GIBBS, M.R.C.V.S., TAUNTON.

CASE I.

IN the summer of 1874 I was called to attend a horse, "Hazard," the property of F. Alleyne, Esq., of Hillmore House, which, I found, had been under the care of a neighbouring practitioner for five weeks, and it being feared by the owner that Farcy and Glanders were developing themselves, further advice was sought.

Symptoms.—Petechial spots on Schneiderian membrane, swellings on all four legs and on various parts of the body. Pulse weak and thready, and 60 per minute.

Diagnosis.—Purpura Hæmorrhagica.

Having administered a diffusible stimulant, I left the horse for the night.

Calling next morning, I found all the symptoms of Purpura present: legs greatly swollen, and hard and tense to the feel; urine high-coloured, and scanty, and sanious discharge from the nostrils.

Gave oil of turpentine ℥ij, with gentian, three times a day in boiled gruel, and had the legs fomented with vinegar and hot water. I continued this treatment for ten days, during which time the swelling left the legs and proceeded to the abdomen, which prevented my slinging the horse. I scarified the abdomen, but should not again adopt this treatment, as it gave rise to wounds of an unhealthy character, and which were most difficult to heal.

I now gave the turpentine morning and night, and sulph. quinine at mid-day. The horse continued standing for ten weeks, during which time he appeared to make a favourable advance towards recovery; when the owner injudiciously administered a dose of purgative medicine, "to improve his condition." This was followed by severe colic and super-purgation; but treatment being adopted, he ultimately recovered—with the exception that he was a "slight whistler"—due, I think, to effusion in, and thickening of, the inner coat of the trachea. During the treatment of this case, both owner and attendant well nigh lost their patience, and would, on several occasions, had I not been unwilling, have had the horse shot.

Case II.

In the spring of 1876 I received a telegram to go to Holnicote, to see a horse belonging to Sir T. Acland, M.P.

On my arrival I found a farrier had been in attendance for some time; and he, supposing the horse to be farcied, had given digitalis and other depleting medicines. All the symptoms of Purpura were present, accompanied with difficult breathing and swelling of the nostrils, head, and throat. Oil of turpentine was administered, and his head was steamed with hot water and spruce-fir tops.

The case being some distance (33 miles) away, I could not see it as often as I wished, but in about four weeks the horse was left apparently convalescent. As he did not improve in condi-

tion, and had such a morbid appetite as to eat dirt, I was again called in—when, supposing acidity of the stomach to be present, I gave a mild cathartic. This, however, was followed by super-purgation, as in the previous case; but it was successfully combated by active treatment.

The horse, during the progress of the disease, lost all his hair, and looked, as the groom expressed it, "like a scald' pig."

There remained (due no doubt to the large doses of turpentine administered) slight irritation of the kidneys. This was alleviated by the application of a fresh-flayed sheepskin twice a week, for one month, to the loins; during which time the horse was regularly exercised. The owner, I was told a few weeks since, would not take £100 for him.

Case III.

In September last I was summoned to see a mare, the property of W. Gibbs, Esq., of Cothelstone, which I had previously attended for a "Quinsey," and had left to all appearance quite recovered. She had all the symptoms of Purpura, the legs being enormously swollen, etc., etc.

I exhibited chlorate of potash, ʒiv, morning and night, and sulph. quinine, ʒj, at mid-day, in strong beer.

In this case the mare would not eat. I allowed her no water, but gave her a gallon of cow's milk twice a day.

The disease rapidly left her, and in a few weeks she was at work again.

Remarks.

I would draw the attention of your readers to the marked susceptibility of the system to the action of cathartics, during the existence of this disease; and would also remark, that from the bad effects produced by the turpentine, I shall not for the future administer it in this complaint—but use, instead, the equally efficacious and more certain chlorate of potash.

Editorial.

THE ÆTIOLOGY OF SPLENIC FEVER.

(*Continued from page* 352.)

To discover how long the Bacilli could survive the effects of drying, Koch tried the following experiments. Blood or spleen from an infected animal was dried in a shady place, exposed to the air; with this a mouse was injected, and the results watched under the microscope. That which was dried in very thin layers lost its infective power after twelve to thirty hours, and, at the same time, its power of growing into elongated fibres in the incubating apparatus. Thicker layers retained their powers for two or three weeks; and some, still thicker, for four or five weeks. After a longer time they were never capable of producing the disease; and it may be said that such substances, thus dried, are never able to produce Splenic Fever, unless they are also able to produce spores from the fibres. And inversely, as the conditions of successful cultivation, Koch found that 35° was the best for their development, the spores appearing after twenty hours; at 30° they took thirty hours; at 18° to 20° two and a half to three days; below 18° the appearance of spores was exceptional; and below 12° the growth of fibres was never observed. On the other hand, at 40° development of spores was rare, and it appeared to cease at 45°.

As to the necessary conditions of air-supply, the following results were obtained: *Bacilli* were rubbed up with the blood, or aqueous or vitreous humour of an ox, and placed in a well-closed glass vessel. Very quickly there ensued an odour of putrefaction; the *Bacilli* disappeared after twenty-four hours, without the fibres enlarging, and lost their infective powers. That their death was due to the absence of oxygen, was shown by placing a drop of blood infected by the *Bacilli* under the microscope. Examined by the micro-spectroscope, it gave the bands of oxy-hæmoglobin; the fibres in this drop increased four or five times in length in three hours; but after that time the oxygen was clearly used up, as the presence of the absorption-band of reduced hæmoglobin proved. From this moment the growth of the bacillar fibres ceased, although true putrefaction had not set in.

One of the first signs of death is the opalescence of the fluid and falling to pieces of the fibres, as is well illustrated in Bollinger's article in Ziemssen's "Handbuch de Specielle Pathologie," etc., p. 465.

In connection with the discussion which is going on as to the "plasticity" of the Bacteria, Koch says that he has never observed any passing of the fibres into micrococci or the like.*

* The reviewer of Koch's paper in the *Quarterly Journal of Microscopical Science* remarks on this point: "Why the Bacteria should do this when dying I can hardly see, and wonder that any one can expect it, especially as we know—thanks to Koch—the morphology of the alternation of generation in this species of *Schizophyte;* and, further, I imagine that no one who has any clear ideas as to what forms are, would imagine that a species, a form, or what you please to call it, will or can, under our eyes, pass into a form of totally different physiological (and, unfortunately, we must add, pathological) capabilities."

If, however, air be allowed to enter, the results are altogether different. The fibres increase greatly in length, and often spores appear after forty-eight hours. The spores and fibres soon sink to the bottom of the glass—a watch-glass was used. The other Bacteria which the air has brought in, disappear; the characteristic smell is developed, and the supernatant fluid becomes quite clear. Dilution of the fluid with a moderate amount of distilled or spring water makes no evident difference; but a large quantity (*e.g.*, twenty times as much) kills the *Bacilli*. *Traces of carbolic acid prevent their development.*

Dampness, then, such as that to which either a body killed by Splenic Fever is exposed when buried to some depth, or left in fields, stables, or skinning yards, or the excreta of some sick animal, are exposed, does no harm to the Bacilli; while it hinders the evaporation of the nutritious fluids in which the *Bacillus* has done its harmful work. Further, it is certain, from repeated experiments, that mice injected with a fluid rich in *Bacilli anthracis* die after twenty-four hours; while a fluid which contains but few spores is quite as successful in three or four days. Let only spores be formed, and specimens of dried Bacilli will be as fatal four years after, as ever they were; but the fibres will not retain their activity for more than five weeks.

To these facts, thus rapidly recapitulated, let it be added that neither Koch nor Cohn has succeeded in producing Splenic Fever with any other species of *Bacillus*.

If these most interesting facts are exact, it is easy to explain the very diverse results sometimes obtained from inoculations with Anthrax blood. One experimenter will employ blood which has been rapidly cooled or dried, and consequently only contains dead *Bacilli*, incapable of reproduction. Another, on the contrary, uses blood which has been slowly dried at a somewhat high temperature, and in which the Bacteridæ have had time to develop and produce spores capable of germinating a long time after desiccation or putrefaction. We can also understand from these researches, how virulent serum or blood, capable of producing Anthrax Fever, may not contain a trace of Bacteridæ, or rather Bacilli; these have disappeared, after producing spores or sporules which are disseminated in the fluid, and will preserve their vitality for a long time.

That *Bacillus anthracis* can produce Splenic Fever when injected into the circulating nutrition of the body, is now abundantly clear. In addition to this, Koch tried whether the digestive or respiratory organs could be made the means of poisoning by this form. Mice and rabbits both ate either form of this species with impunity.* As to the results of the inspiration of them, nothing satisfactory was arrived at.

The results of Brauell's experiments on the influence of the filtering

* No fact is perhaps better established, than that the flesh or blood of animals which have perished from Splenic Fever is poisonous when ingested. The history of the disease teems with cases of poisoning in this way, and every kind of animal—but more particularly the Carnivora—is susceptible. In "Animal Plagues" and "Veterinary Sanitary Science and Police" we have given ample proof of this fact.

action of the placenta were confirmed. When a pregnant animal was inoculated with the Bacilli, its blood alone contained these organisms; and other creatures could be inoculated with the blood of the fœtus and suffer no injury,—a fact which is explained by the independence existing between the two circulatory systems.

To observe how soon the poison took effect, nine mice were simultaneously injected with it, and examined after two, four, six, eight, ten, twelve, fourteen, and sixteen hours respectively. No *Bacilli* were found in the first six; the spleen alone of the seventh was affected; in the eighth this organ was enlarged, and the *Bacilli* more numerous. The ninth mouse died of the disease after seventeen hours, the characteristic symptoms being present.

Two dogs, one partridge, and one sparrow, were injected with the poison, but no Splenic Fever ensued in these experiments; frogs also were not poisoned by the injection of fibres or spores of *Bacilli*. Koch describes, however, the changes which took place when a piece of spleen which contained them was placed under the skin.

To understand fully the ætiology of Splenic Fever, we must know much more than we now do. Can it be that ruminating animals cannot eat the spores with impunity, as rodents can? Why is it that these larger animals take days to die, while mice perish in thirty hours? These are questions asked of us; but the interrogator evidently forgets that non-ruminating, though vegetable-feeding animals—as the horse and other creatures—perish in the same manner as ruminants, and that one form of Splenic Fever—Splenic Apoplexy—is sometimes singularly rapid, especially in bovines.

A more appropriate question is that concerning the various influences exerted by different degrees of temperature, depth of sepulture, and humidity of soil, on the formation of the spores. It is a subject for congratulation that Koch has so distinctly shown that the fibres, as compared with the spores, are comparatively harmless. Let the spores remain dry for years, or in decomposing fluids for months; let them be repeatedly dried and as often wetted—still do they retain their baneful influence on living animal fluids. A wound, however slight, is sufficiently large to allow them to enter. Employ cotton wool to soothe a burn, and perhaps you are applying to yourself the seeds of the disease that will kill you; bathe in a stream in which the spores are resting, and a scratch will offer them a way into your system.

So much is quite clear. Quite as clear, unfortunately, is the enormous extent of their ravages. In one small Prussian district, £9,000 was lost by the death of sheep from this disease. In three years the district of Novgorod lost 56,000 horses and cattle, and 528 human beings.

The ordinary remedy has been to bury the victims deep in the earth; but the German veterinary surgeon, Oemler, has reduced the loss among sheep from 21 per cent. per annum to 2 per cent. by forbidding the burial of the victims in fields and meadows.

Koch thinks that the best way to get rid of this "destroying angel,"

is to utterly destroy all substances which contain *Bacilli;* though he fears that it is impossible to adopt so radical a measure. He is of opinion that much might be done by placing all affected bodies in a dry pit to which air could not have access, and at so great a depth as to have a temperature always lower than 15° (centigrade).

Prophylactic measures are to be especially directed towards the disease in sheep; as it is in them only that the malady is continuous; in other animals it appears only at intervals.

In concluding his interesting and valuable remarks, Koch draws attention to the similarity in conditions between this Splenic Fever, and Cholera and Typhus; and he expresses the hope that these two diseases may, with the advance of knowledge, be brought more fully under man's control.

While Koch in Germany has been so successfully pursuing investigations into the ætiology of this destructive panzoötic malady, Paul Bert, in France, has also been working in the same direction; but the results and deductions of the two do not quite accord. In a first series of experiments, Bert submitted Anthrax blood to the action of considerably compressed oxygen, and found that the *Bacilli* had disappeared—killed by the oxygen; and yet the blood retained its virulence, for it killed rabbits, guinea-pigs, and dogs inoculated with it. This circumstance might be explained, however, by Koch's researches; the *Bacilli* died from the action of the compressed oxygen, as they do from rapid desiccation, cold, or putrefaction; but their spores or germs may have resisted the oxygen, just as they resist drying, a low or high temperature, and putrefaction. They preserve their activity, and have power to induce Splenic Fever when they meet with favourable conditions on being transferred to the body of an animal.

In a second series of experiments, however, the results are more difficult of explanation by Koch's investigations. Taking some Anthrax blood containing *Bacilli*, drop by drop of absolute alcohol was added until it formed a *magma* or precipitate, which was dried in a vacuum. This dried powder was injected under the skin, and it killed a rabbit, a guinea-pig, and even a dog.

If this alcoholised *magma* is dissolved in water, and this is filtered, the filtrate is still virulent; if alcohol is again added to it, it forms a flocculent matter which is deposited at the bottom of the vessel. Collected on a filter and dried, this precipitate is still toxic. It would therefore appear that the active or virulent element of Anthrax resists absolute alcohol as it resists compressed oxygen; and that it is precipitable by alcohol and soluble in water. It behaves itself something like diastase, except that, whatever may be its nature, it can reproduce itself to an indefinite extent; while it is admitted by some authorities that a diastase cannot reproduce itself.

We are thus, between the two sets of experiments, landed where we were some years ago. Koch's conclusions point to Splenic Fever being due to a minute organism possessing wonderful powers of resistance and reproduction; Bert's, to something independent of the

presence or absence of animal or vegetable organisms, and which resists the action of compressed oxygen and absolute alcohol, which would, he asserts, kill everything possessing life—this something, he is of opinion, is a substance analogous to diastase.

We confess that we lean more to the conclusions of Koch than those of Bert; but the truth is gradually being evolved out of the obscurity which has so long reigned with regard to this important question; and as investigators are increased, and new means and methods of research devised, we shall hope soon to be furnished with definite conclusions as to the causation of a disease which presents so many features of absorbing interest for the pathologist.

THE RECENT HORSE PLAGUE IN EGYPT.

IN the "Transactions of the Imperial German Board of Health" (*Veröffentlichungen des K. deutschen Gesundheitsamtes*, 1877, No. 13), we find some interesting particulars of the recent epizoötic *Typhus equinus* in Lower Egypt. In the Province of Daccalieh, where the Plague broke out in September, abated somewhat in October, and finally ceased at the beginning of November, it killed 4427 animals—viz., 2902 horses, 435 mules, and 1090 asses, in the space of sixty days. In Garbieh the disease broke out at the same time, but was not extinguished till the end of November. While it raged, 8989 animals succumbed, of which 5710 were horses, 768 mules, 2203 asses, and 308 camels. Among the last-named animals, but few cases occurred in any of the other provinces. In Menonffieh 31 camels, 803 horses, 65 mules, and 164 asses fell victims; while in the Province of Béhéré, where the Plague lasted longer than elsewhere, the losses were between 4000 and 5000 head of live stock. In Alexandria the disease was confined within narrower limits. From September 19th to December 1st, only 178 horses, 33 mules, and 39 asses perished, while the greatest mortality on any one day never exceeded ten.

Remembering that many cases must have escaped official recognition, owing to the bodies being at once thrown into the water or buried in the fields by their owners, it is probable that the total loss in the different provinces during the continuance of the epizoöty may be roundly estimated as follows:—

Cherkieh (July to October inclusive)	4700
Calionbieh (August to October inclusive)	2000
Daccalieh (September to October inclusive)	4500
Menonffieh (September to October inclusive)	1200
Garbieh (September, October, November)	9000
Béhéré (October and November)	4600
Cairo (August to November)	6500
Alexandria (October and November)	250
Coast towns: Suez, Rosetta, and Damietta (September to November inclusive)	450
	33,200

No further case having been observed since the beginning of December, the "Conseil de l'Intendance Générale Sanitaire d'Egypte," on January 25, 1877, officially declared the Plague extinct; and in so doing rescinded all the prohibitive restrictions which had been put in force during its prevalence.

THE CATTLE PLAGUE.

IT would appear that the energetic steps at last adopted for the extinction of this scourge are likely to be attended with success. The earlier outbreaks which have occurred in and around London since our last issue, are given in the report of the Royal Agricultural Society, published in another part of the Journal. An outbreak has since been reported from Hull, in a dairy of five cows. No cases had been detected there for a period of six weeks, and we have not yet learned how the infection was conveyed. Another outbreak has also occurred in Whitechapel, London, in a dairy of five cows.

Important addresses have been delivered on the subject of Contagious Diseases by Professors Gamgee and Mayer, and public attention has been more than ever forcibly directed to this most important question.

At a recent meeting of the Metropolitan Board of Works, Mr. Richardson, in bringing up the report of the Cattle Diseases Committee for adoption, stated that the sum of £6457 had been awarded as compensation in respect of animals ordered to be slaughtered in consequence of being affected with Cattle Plague, or herded with animals so affected, so that it was most interesting, as it was a summary of the proceedings of the Cattle Diseases Committee since the disease first appeared. During that time 78 animals were attacked with Cattle Plague, 319 healthy animals being in contact with them. The diseased animals had been valued at £1733, and the others at £7454, by the valuer to the Board ; whilst the owners had valued them respectively at £2024 and £8893. On the principle by which compensation had to be paid, the amount was £6457, against which they had £3979 for sale of healthy animals, leaving the total loss at £2477,—a most congratulatory state of affairs. Reverting to the answer given by the President of the Privy Council in the House of Commons on Thursday as to the Cattle Plague at Hull, he thought it rather reflected on the Metropolitan Board and its officers, who had been superseded. They had been most successful in their efforts ; but if he was to tell them (the Board) all that had come to his knowledge as to the way in which it had been dealt with by the Privy Council, they would wonder Cattle Plague had not spread all over the Metropolis. The Privy Council officers had been frequently in error, and he could cite cases. The Board had really stamped out the disease, and where it had broken out since it was taken out of their hands was the fault of the Privy Council, and not of the Board. Mr. Munro seconded the resolution, which was carried. In calling attention to the copy of an order in Council, dated May 9th, 1877, directing the Veterinary Department of the Privy Council Office to slaughter every animal affected with Cattle Plague, or that has been in contact with any animal so affected, the local authority paying compensation for animals so slaughtered, Mr. Richardson said that a large number of animals had been slaughtered, and this was the first order that had been issued on the question. Unless the Chancellor of the Exchequer came to the aid of Professor Brown, who had given these orders for slaughter, he would probably be left in the lurch, and have to pay for them himself.

CONTAGIOUS FOOT-ROT IN SHEEP, MILK-SICKNESS, AND TEXAS FEVER IN AMERICA.

SOME time ago, addressing ourselves to Professor Law on the subject of Contagious Foot-rot in sheep, and also as to the existence or prevalence of the so-called "Milk-Sickness," in the United States of America, the Pro-

fessor writes:—"In talking yesterday with the agent of the Vermont Wool-growers' Association, I obtained the information that, on the Green Mountains, the introduction of a sheep with Foot-rot into a healthy flock ensured the development of the disease in them in nine days."

Similar occurrences have been noted in Britain and on the Continent.

With regard to "Milk-Sickness," he states: "I am as anxious as you can possibly be to get some recent information on 'Milk-Sickness,' but my past unavailing search is not very encouraging for the future. I have been able to obtain nothing better than vague statements from some octogenarian as to what happened in his or her youth. All sorts of theories have been advanced, but at present I believe the disease is extinct, or nearly so. At all events, its present habitat appears to be undiscoverable, and places where it formerly prevailed are now reputed healthy. 'Texas Fever' has again prevailed this year (1876) in Michigan, New York, and Massachusetts, but only to a limited extent; and with the present promise of light morning frosts its yearly career is necessarily cut short."

The history of "Milk-Sickness" is interesting, and the pathology and etiology of the disease have long been obscure, and were often discussed in America by some of the most eminent medical men in the United States. During the last fifty years the malady has been observed in Tennessee, Kentucky, Illinois, Indiana, and elsewhere—it having been seen in North Carolina more than a century ago; and, according to Wood, it received its name from the supposition that human beings derived it through the milk of sick cattle. The same authority says that it followed emigration westward to Tennessee and Kentucky, and prevailed in various parts of Ohio, Indiana, and Illinois, where it is occasionally seen in the new settlements. It has been noted, as an interesting and most significant fact in relation to its locality, that it occurs only in places where the soil is still in its virgin state, and disappears immediately after cultivation. At one time it was supposed to owe its origin to cows feeding on certain poisonous plants—particularly the *Rhus radicans*, or poison vine.

The disease only occurs originally in the herbivorous animals—as the ox, horse, sheep, and goat; but it is transmitted to carnivorous animals—as the dog, cat, etc.—which feed on the flesh of the diseased creatures. Dr. Graff (*American Journal of Medical Sciences*, 1841), however, states that the hog is not susceptible; as he fed a sow for a fortnight on poisonous flesh which had killed dogs, and with no other effect than to fatten the animal.

It is stated that, at the commencement, the symptoms are not well marked, so that the milk and flesh of really diseased animals may be inadvertently used under the supposition that they are in good health. If, however, in this condition they are made to run rapidly, or to exert themselves violently in any other manner, they evince signs of the affection in muscular weakness and tremblings; and, if greatly over-fatigued, sometimes fall and die speedily in convulsions. If left undisturbed, an animal affected with the disease loses its appetite, walks about aimlessly, is inattentive to surrounding objects, the eyes are red and suffused; after a while it begins to stagger, trembles throughout the whole body, and at length falls, is seized with convulsions, and perishes. The trembling is so characteristic a symptom that the malady is known as the "trembles." In experiments on dogs, signs of the disease were observed in forty-eight hours after eating the poisoned food, and death took place in six days or earlier. Sometimes death has speedily ensued; and the young litter of a bitch which had been affected by consuming the diseased flesh quickly succumbed after sucking its milk. Vultures which have fed on the carcases of dogs that have thus perished have been fatally poisoned. When properly cooked the flesh appears to be innocuous.

In mankind the transmitted affection is very fatal when it assumes a malignant character, which is frequent, and the symptoms closely resemble those present in Anthrax Fever in the human species in our own country. Indeed, there can scarcely be a doubt that this so-called "Milk-Sickness" in animals is closely related to, if not identical with, Anthrax Fever.

Reviews.

AN INTRODUCTION TO PRACTICAL HISTOLOGY. By George Thin, M.D. London: Baillière, Tindall, and Cox.

Of the great value of histology and microscopical research in anatomy, physiology, and pathology, every day gives ample proof; and the immense benefits already conferred by means of the microscope are but a tithe of those we have every reason to expect. The advantages to be derived from the use of this instrument are only beginning to be appreciated by veterinary surgeons, and before many years have passed away we trust that it will be a familiar aid in at least pathological research, and resorted to by every practitioner. The drawback, at present, to its being more frequently made available, is the fact that students have not hitherto had time to be instructed in its management, nor to acquire correct notions of those details with regard to the preparation of tissues or the use of re-agents, and other means upon a knowledge of which success in histology so much depends. Almost every day new processes and methods are being introduced, while old ones are modified or altogether relinquished, and perfection is slowly but surely being attained. Another cause, perhaps, which has operated in limiting the use of the microscope among veterinary surgeons and students, has been the absence of a handy, cheap, and trustworthy manual, embracing all the newest information in a moderate compass, and written in clear and concise language. The book before us can be honestly recommended as the very best of its kind which we have seen. It contains all the latest and most approved methods of preparation and observation, some of which are known to very few in this country, and described in such a manner that the beginner can have no difficulty whatever in understanding them and carrying them into practice; while to histologists of long experience they will prove particularly interesting and instructive. The work may be designated a manual of practical histology, and though intended more especially for the beginner, the views expressed on some points are widely different from some of those given in text-books on the subject. The histology of some of the tissues is given at considerable length, and well-drawn woodcuts are judiciously added. Dr. Thin's name is so well known as that of a most indefatigable, successful, and original worker in the field of histology, that it is a guarantee of the merits of his very excellent book. We must likewise give the publishers credit for their share of

the work, as the manual is well got up, and published at such a low price—five shillings—as brings it within the reach of the poorest student. This is by far the best text-book for the veterinary microscopist that has yet been issued.

AMERICAN VETERINARY REVIEW. Nos. 1 and 2.

We hail with unfeigned pleasure the advent of a new literary venture in America, in the form of a *Veterinary Review*. The time had certainly arrived when our colleagues on the great and enterprising continent must bestir themselves, and find a means of testifying to their existence and their progress, as well as a medium by which to promote their welfare, express their wrongs, and obtain redress. The new journal commences under very favourable auspices, the editorship being assumed by Professor Liautard, who has as assistants Professors Large, Robertson, and Holcombe. In the second number it is intimated that it was intended to limit the publication to every half-year, and to that effect the first number was issued in January last; but we are happy to observe that a second edition has induced the editor to issue the journal monthly. From the manner in which the two numbers have been presented to the public, and the excellence and interesting character of their contents, we may safely predict a full measure of success to our young contemporary. It has our very heartiest good wishes, and we earnestly hope that its influence in promoting professional advancement in America may be great, durable, and unrestricted. We have now three veterinary journals in English-speaking countries: not long ago there was only one; and believing, as we do, in the value of healthy competition and generous rivalry, not less than in the wide diffusion of useful knowledge, we give a warm welcome to this trans-Atlantic bond of fraternity. The first number contains a well-written paper on the "History and Progress of Veterinary Medicine in the United States," by Liautard; "Zymotic Diseases," by Law; "Use of Stimulants in Diseases," by Holcombe; "On the Causes of some Chronic Lamenesses of the Foot," by Very; "Erysipelatous Cellulitis," by Thayer; and "Sanitary Measures," by McEachran. The second number has, as original communications, a paper by Large on "Endemic (Epizoötic?) Cerebro-spinal Meningitis in Brooklyn"; "Veterinary Education," by McEachran; "Effects of Cold," by Holcombe; while it contains editorial articles, abstracts from foreign journals, reports of cases, varieties and news, etc.

We allude thus lengthily to the *American Veterinary Review*, in order to testify to the high estimation in which we hold it, and to draw the attention of veterinary surgeons in this country to the valuable addition it makes to our scanty literature. It is well worthy of patronage by the veterinary profession in England as well as America.

Abstract of the Proceedings of the Royal College of Veterinary Surgeons, Veterinary Medical Societies, etc.

SPECIAL MEETING OF COUNCIL HELD MAY 1ST, 1877.

Present—Col. Sir F. Fitzwygram, Bart., President, in the chair; Professor Pritchard; Messrs. Batt, Collins, Dray, Duguid, Gowing, Harpley, Hunt, Moon, Moore, Naylor, Talbot, Withers, Woodger, and the Secretary.

The minutes of the last quarterly meeting were read and confirmed.

Letters, expressing their inability to attend the meeting, were read from Professor Walley, Mr. Cox, Mr. Greaves, and Mr. Fleming.

A letter was read from Mr. J. W. Moorland, of Staleybridge, drawing the attention of the Council to the fact that a man of the name of Crooks, who was not a member of the College, advertised himself as M.R.C.V.S.

The PRESIDENT said an official answer had better be sent, stating that the man was not a member of the College, and the only further step to be taken was to insert an advertisement in the local papers repeating that statement.

Mr. GOWING said, though the Council could not prevent a man from calling himself a veterinary surgeon, he thought they should seriously consider if something could not be done in the case of a person using the title M.R.C.V.S.

The following letters were read:—

(1) From Professor Axe, tendering his resignation as member of the Council, in consequence of the many other calls upon his time.

(2) From Mr. Glover, Stratford, one of the competitors for the Fitzwygram Prize, who had met with an accident, and was unable at present to undergo the final examination.

The SECRETARY said the other competitor was quite willing to wait until Mr. Glover recovered.

(3) From Mr. Bell, of Clonmel, and Mr. J. G. Truckle, of Salisbury, asking if members of the profession were exempt from serving on juries.

The SECRETARY said he had informed those gentlemen that there was no such exemption, but that an exemption clause had been inserted in the Bill now before Parliament.

(4) From Mr. Geo. A. Oliphant, of Hàpur, N.W. Provinces, India, acknowledging the honour of his election as a Fellow and stating that he would instruct his agent to remit the fee.

(5) From Mr. R. Ward, of Winchester, requesting to be informed when the first Fellowship Examination would take place.

Mr. HARPLEY suggested that a list of intending candidates should be kept.

The Secretary was instructed to reply that it was intended to hold an examination next July, if a sufficient number of candidates offered themselves.

The SECRETARY announced that letters had been received from Mr. Cartledge, Mr. Mayer, Mr. Hunt, Mr. Robertson, and Mr. Robinson, tendering their resignation as examiners; and a letter from Mr. Richard Pritchard, of Wolverhampton, stating that on the re-election of the Board of Examiners it was his intention to accept office if re-elected.

A letter was also read from Mr. Birkett, who wished to be informed what alterations had been made in the examinations.

The SECRETARY stated that he had sent a copy of the Report of the Education Committee to Mr. Birkett, and informed him that a copy of the new Bye-laws would be sent in a few days.

Dr. DUNSMURE'S report of the "Pass Examinations" in Scotland was

read. It showed that at the Edinburgh Veterinary College six passed and six were rejected; that at the New Veterinary College, Edinburgh, fourteen passed and three were rejected; at the Glasgow eighteen passed and one was rejected.

The SECRETARY read the result of the "first examinations" held in Edinburgh April 16th and 17th: fourteen passed, and four were rejected; at that in Glasgow three passed, and two were rejected. The attention of the Council was directed to the fact that the Glasgow school had infringed the bye-laws of the College in presenting less than nine students for examination.

Mr. GOWING asked how that would affect the fees.

The SECRETARY said that there was a balance due to the College of £1 11*s.* 4*d.*

After a short discussion,

The PRESIDENT said the person who appeared to be most to blame was Dr. Dunsmure, and the only thing that could now be done was for the secretary to write to Dr. Dunsmure to ask why a Court had been assembled at Glasgow, when there was not the required quota of students.

The PRESIDENT proposed to add the word "Indifferent" to the terms that might be used by the examiners. He said that sometimes an examiner felt that a student had not done quite so badly as to prevent his passing, and in Scotland the letter "I" was used in such cases. If a student had two "I's," it was regarded as an equivalent to one "Bad." The Scotch Board had a strong feeling in favour of retaining the word "Indifferent."

Mr. HARPLEY said that amongst the examiners in Scotland there was a very great dislike to putting the letter "B" opposite any student's name, and he himself had a similar feeling. The President's proposal, however, did not do away with the right of the examiner to declare a student bad if he felt that he ought to do so.

Mr. HUNT asked if the word "Indifferent" was to supersede the word "Moderate."

The PRESIDENT said that "moderate" meant the same in England as "sufficient" in Scotland. "Indifferent" was something below "sufficient." The second part of his motion was that two "I's" should be equivalent to one "B," and should cause the rejection of a student.

Mr. DRAY seconded the President's motion, which was carried unanimously.

A letter was read from the Lord President of the Council, dated the 19th April, 1877:—

"SIR,—I am directed by the Lord President of the Council to inform you that a petition to Her Majesty in Council has been received at this office from the Royal Veterinary College praying for the grant of a Supplemental Charter, and I am instructed by His Grace to transmit to you, for any observations that the Royal College of Veterinary Surgeons may have to offer, the accompanying copy of the Charter prayed for, etc.

"Your obedient servant,

"C. L. PEEL."

The portions of the Charter in which the Royal College of Veterinary Surgeons was concerned were then read.

The PRESIDENT said, under the old Charter of the Royal Veterinary College, the Governors could only be elected from among the subscribers, and no veterinary surgeon was permitted to be a subscriber. The object of the Supplemental Charter was to allow veterinary surgeons to be placed on the Board. The Royal Veterinary College of their own good feeling had also taken measures to cancel the power which they had obtained

to create Fellows, as it was thought that that degree would interfere with the University rights of the Royal College of Veterinary Surgeons.

The Secretary read a letter, a copy of which had been submitted to the Parliamentary agent, Mr. Loch, in reply to the letter received from the Privy Council :—

"*20th April*, 1877.

"SIR,—I have the honour to acknowledge the receipt of your letter of the 19th inst., with the draft Supplemental Charter prayed for by the Royal Veterinary College enclosed therein; and in reply I am directed by the President and Council of the Royal College of Veterinary Surgeons to say that the draft of the proposed Supplemental Charter meets with their entire approbation, and that they have consequently no observations to make thereon."

The PRESIDENT said that the letter had been sent before obtaining the approval of the Council, but he presumed it expressed the general feeling. He apologised to the Council for the mistake which had been made in sending it before their approval had been obtained.

The letter was ordered to be entered on the minutes.

The auditors' report was then read, which showed that the balance at the bankers' was £478 3*s.* 10*d.*, the stock standing in the names of the trustees being £640 19*s.* 11*d.*

The PRESIDENT said from these accounts it was perfectly clear that the College was living beyond its income. The only legitimate income which they had was the difference between the Examiners' expenses, which amounted in round numbers to £800, and the examination fees, which amounted to £1134, *plus* £18, the interest on the invested money. The total income was therefore about £350. No doubt some of the expenses last year were casual, such as the expense in obtaining the Charter, printing the diplomas, etc.; but still it was plain from the items that the annual income was not sufficient to meet the expenditure.

Mr. GOWING suggested that a committee should be appointed for the purpose of taking into consideration the best means of putting the finances of the College in a healthy position.

Mr. HARPLEY expressed his approval of the suggestion.

Mr. NAYLOR proposed that the auditors' report be adopted and printed.

Mr. DRAY seconded the motion, which was carried.

The PRESIDENT proposed "That a committee be appointed to report on the best means of equalising the expenses with the income."

Mr. DRAY seconded the motion, which was carried.

Mr. BATT thought that, as this was a matter of great importance, the Council should form itself into a committee.

Several members of Council, on the other hand, expressed their opinion that a small committee worked better than a large one, and ultimately a committee was appointed, consisting of Messrs. Collins, Dray, Gowing, Harpley, and Withers.

The report of the committee which had been appointed to consider what means should be adopted to relieve the Secretary from the great pressure of business was read:—

"10, Red Lion Square, W.C.

"The expenditure in the present year, though restricted as closely as possible to what is absolutely necessary, appears to have exceeded the income of the Royal College of Veterinary Surgeons by a sum of £97.

"The Committee, therefore, have felt themselves unable to recommend any scheme which would involve any considerably increased expenditure.

"The Committee addressed themselves to an inquiry as to in what way the excess of work complained of by the Secretary could be reduced.

"The Committee have gone carefully over the books kept by the Secretary.

"The Committee think that the very considerable labour of making a *précis* of the proceedings of the Council may be avoided by adopting the shorthand writer's notes in lieu thereof.

"The Committee think the book containing the names or register of members is unnecessary, as the printed register, if kept up to date, is quite sufficient.

"The Committee think that the letter book might be restricted to such letters as are of any importance. On this point the Secretary differs, and thinks that the responsibility of selecting letters for preservation would exceed that of filing all letters.

"The Committee think that the second book or register of examinations with fees paid is unnecessary, as the necessary information might be given by adding an additional column to register No. 1.

"The Committee think that the work in the past year has been excessive, on account of the many matters of importance which have been under consideration; but they observe that the average number of letters does not appear to exceed 300 per annum.

"The Committee think that the suggestions which they have made will sufficiently reduce the labour; but that if towards the end of the year a pressure should occur on account of the voting papers, etc., an assistant clerk should be allowed for a month.

"F. FITZWYGRAM."

The SECRETARY said that he gladly availed himself of the suggestion with regard to the utilization of the shorthand notes as minutes of the Council; but he thought the Supplemental Charter would not permit the suggestion of the committee with regard to the register of members being carried out. The report stated that the number of letters sent out during the year had been 300, but it was really 396—such being the number actually appearing on the letter-book; but counting those not copied into the said book, the total was double that number. He had also recently to direct 1250 voting papers. He suggested that his hours of attendance might be fixed,—say from 10 to 5.

After some considerable discussion, Mr. DRAY moved and Mr. NAYLOR seconded a motion in accordance with the wishes of the Secretary, regulating his hours of attendance as from 10 to 5, and on Saturdays 10 to 1. It was understood that this regulation should not apply when there were committee meetings.

Mr. COLLINS proposed as an amendment, "That no alteration should be made in the present arrangement."

Mr. HARPLEY seconded the amendment, and on a division being taken the amendment was carried.

Annual Report.

The PRESIDENT said that the annual report had been drawn up by the Secretary, and had been read over by Mr. Dray and himself. He regretted that he had been unable to lay the draft of the proposed annual report before the Council, as it had been sent to Mr. Fleming and not yet returned, Mr. Fleming being in Scotland.

The SECRETARY stated that the report alluded to the following subjects:—A summary of the proceedings of the Council; the election of office-bearers; the application to the Government by the Highland and Agricultural Society for a charter to grant diplomas; the deputation to the Lord President; the Council's reasons for objecting to the Charter; and the decision of the Privy Council; the Supplemental Charter of the Royal College of Veterinary

Surgeons; the alteration of title, and the granting of the same; the amended Bye-laws; the appointment of registrar; the names of the elected Fellows; the voting papers; the "Cruelty to Animals Act"; statement of attendance of members of the Council; examinations; new members; the prizes; college fund, and the subscription list; the register of deaths; presentations to the museum and library; and the financial report.

Some discussion took place as to the best mode of procedure under the circumstances, and it was ultimately agreed to leave the matter in the hands of the President.

Mr. DRAY stated that he had arranged for the annual dinner to be held at the Freemasons' Tavern, tickets 23s. each.

The PRESIDENT stated that in the *Veterinarian* for April, page 226, "original research" was put down as the qualification of the Fellows selected for the Irish section of the committee. That was a mistake. The Irish section simply selected those members of the profession whom they thought most fit.

Notice was given by the PRESIDENT of his intention to move certain resolutions at the next meeting, and the proceedings then terminated.

ANNUAL GENERAL MEETING, HELD MAY 7TH, 1877.

THE thirty-fourth annual meeting of the members politic and corporate of the Royal College of Veterinary Surgeons was held by advertisement, and in accordance with the provisions of the Charter, on the first Monday in the month of May, being the 7th day thereof, 1877, at the College, 10, Red Lion Square, Holborn, London.

Present—Col. Sir Frederick Fitzwygram, Bart., President, in the chair; Professors Pritchard, Walley, and Williams; James Collins, Esq., Principal Veterinary Surgeon to the Army; Messrs. G. Balls, G. Balls, jun., G. A. Banham, H. T. Batt, T. G. Batt, F. Blakeway, J. C. Broad, A. Broad, W. C. Bland, J. H. Brown, T. Burrell, B. Cartledge, A. R. Charles, C. Dayus, E. C. Dray, H. Dyer, J. C. Dwyer, E. P. Dwyer, G. Fleming, J. Fraser, W. Furnivall, J. Gerrard, J. Gibbs, A. L. Gibson, J. L. Gillingham, T. W. Gowing, T. W. Gowing, jun., T. P. Gudgin, James Hall, W. A. Harber, M. J. Harpley, J. Howard, R. L. Hunt, William Hunting, J. E. Jarvis, Thomas Jex, James Lambert, H. Lawrence, J. Leather, G. A. Lepper, A. J. Milne, James Moon, W. H. Moore, James Moore, James Moore, jun., Thomas Moore, J. Mosedale, J. Norris, I. Print, T. Poulton, W. Raddall, F. Ridler, James Rowe, F. G. Samson, C. C. Sanderson, W. Smith, F. Smith, W. W. Smart, H. L. Simpson, C. Steel, J. H. Steel, J. Storrar, J. Tatam, William Whittle, R. Ward, W. Wilson, S. H. Withers, Hicks Withers, Henry Withers, J. Woodger, J. Woodger, jun., W. Woods, and the Secretary.

The SECRETARY read the notice convening the meeting; also the minutes of the previous meeting, which were confirmed.

The following gentlemen were appointed as scrutineers:—Messrs. Rowe, Thomas Moore, C. Steel, Banham, Helmore, Furnivall, Milne, and Charles.

A member of the profession asked if gentlemen whose names were not on the list were eligible for re-election as members of the Council.

The PRESIDENT.—"Clearly not, unless they are proposed and seconded."

The SECRETARY read the annual report.

Mr. DRAY moved the reception of the report.

Mr. MOORE seconded the motion.

Mr. FURNIVALL called attention to No. 50 of the amended Bye-laws, and asked whether a candidate for fellowship who had been educated at a public school, and afterwards attended lectures at King's College or the London University, though not graduating in arts, would be eligible.

The PRESIDENT said he would not be eligible unless qualified according to the Bye-law.

The SECRETARY read Bye-law 50: "Each candidate, other than a Professor or ex-Professor at a school affiliated with the Royal College of Veterinary Surgeons, will be required to produce a Certificate of Graduation in Arts at a University to be recognized for this purpose by the Council, or a Certificate of Liberal Education after an Examination by the College of Preceptors, under the direction and supervision of the Council."

One of the gentlemen present asked if Mr. R. Pritchard and Mr. J. W. Axe were eligible for re-election.

The PRESIDENT said those gentlemen were not eligible. They were both present at the Council when the laws were made, so that there was no hardship in their case. In fact, he presumed that they did not wish to come on the Council again, as they were not proposed and seconded according to the rule.

Mr. ROWE called attention to the balance-sheet, and said there had been a gradual increase in the expenses. In 1873 they amounted to £1200; in 1874 to £1300; in 1875 to £1400; and in 1876 to nearly £2000. The law expenses had considerably increased, and he hoped they had reached their maximum. On the whole, he thought there was ground for congratulation at the improvement in the position of the profession during the past year.

The PRESIDENT said there could be no doubt that the expenses had increased. During the present year they had increased in consequence of the Charter and the Fellowships: indeed, the expenses were annually exceeding the income, and the Council had appointed a committee to look into the matter, and see how the income and expenditure could be equalized.

Mr. HUNTING said the profession had now entered upon a new era; the old lines had been broken down, and they now commenced with a new Council, in whose hands the whole regulation of the profession would remain for four or five years. The method of electing the Council had been rashly altered without giving fair notice to the profession. Even members of the Council did not know whether the balloting papers would be used this year or not; and many members thought it would only be fair to allow old members of Council to be proposed at the meeting, as on former occasions. The election of members by ballot had given advantage to provincial members; and he understood that in four or five of the northern towns of England the members of medical associations had united so as to secure the election of three or four of their number. All was said to be fair in war and in elections. At the same time, as one of the metropolitan members, he protested against the unfair advantage given this year to the provincial members. It would not occur again, because the London members had a little "caucus" of their own, and might be able to secure the election of one or two members of the Council. With regard to the election of Fellows, it seemed to be a question whether there was any advantage in being a member or not. Thus far those members had been elected who had been known for a number of years, and had been tolerably prominent in the profession; but some rather stiff rules had been adopted to prevent any but scientific or educated men from becoming Fellows. A great number had been admitted up to the present time who were neither scientific nor educated, and never would be. If a number of men had been elected as Fellows for their business capacities and services, and if the position had been a little more open to other men, he could have better understood it. He supposed that he himself would be saved the examination, as he believed he was an ex-Professor. It appeared that an examination by the College of Preceptors was provided for by one of the Bye-laws, but that examination was but little better than the fourth standard of the School Board, so that

there could be no difficulty whatever in passing it. The principal objection which he had to the arrangements for the election of Fellows was the charge of fifteen guineas, but he supposed that could not be altered. Reference had been made to the Cruelty to Animals Act, which he thought might be made use of to prevent the performance of operations by farriers. Not long since, the Society for the Prevention of Cruelty to Animals tried to punish a man for burning the lampas, but they failed to convict; the conviction, however, he thought, might be obtained under the Vivisection Act. With regard to the Register, he would suggest the omission, at the end of the names, of such words as "London," "Glasgow," "Albert,"—there being no bodies corporate so called. There was no great objection to showing where a man had passed his examination—as in Edinburgh or London; but that was superfluous, for it was the same Examining Board. It enabled a man to put a nonsensical string of letters to his name, as M.R.C.V.S.L. On the whole, since the last meeting the profession had advanced, and he hoped that it would continue to do so even more rapidly.

Mr. GOWING said he thought a great deal had been done in obtaining power to grant fellowships, inasmuch as they conferred honour not only on those who possessed them, but on the whole profession. He had no doubt that Mr. Hunting would obtain a fellowship, and it would give the present Fellows great pleasure to have him enrolled among them. Degrees had been given by some of the schools to practitioners, but they were of no practical use. As soon as it was ascertained that such degrees were granted, it became necessary for the College to obtain power to give a degree that would be really valued by the possessor. The members were all greatly indebted to the President for his disinterested labours, and he desired individually to thank him for all his exertions.

The PRESIDENT said he thought the Council could hardly be accused of acting rashly in the matter of the voting papers, for it was a subject of consideration last year before application was made for the new Charter; indeed, that was one of the principal points at which the Charter aimed, according to the decided wish of the profession; and if it resulted in the return of a certain number of provincial members, that would also be the desire of the profession, and in a great measure the object for which the papers were instituted. With regard to Mr. Hunting's objection as to the selection of Fellows, no doubt the object of the clause in question was to admit men who might not perhaps be able to pass a modern scientific examination, but who combined high character, professional standing, and good practice; and he thought none of the profession ought to regret that the clause had been so worded and so used as to elect those gentlemen as primary Fellows. Mr. Hunting, as a younger man, would no doubt qualify himself, and pass with very great credit to himself, and become a credit to the profession generally. When Mr. Hunting stated that the examination of the College of Preceptors was a farce, and only fitted for a schoolboy, he must have spoken without due inquiry. The College of Preceptors was a general examining body, and would give a first-class examination, equal to the highest degree of the London University, or to the Oxford or Cambridge Middle Class Examination, down to the lowest class that might be desired; but it rested with the Council to select the standard on which the College should be asked to examine. With regard to the increase of expenses over income, the Council had appointed a committee to inquire into the matter and to suggest a remedy. There was no doubt of the fact, that of late years the expenditure had exceeded the income. The cause of the increased expenditure lay in the cost of two examinations for each student instead of one; and this source of expense was likely to increase under the new system of three examinations. It was a matter for most serious consideration.

Mr. WILSON desired to make an explanation with reference to the announcement of the death of Mr. Beeson, of Amersham, which had been made on his authority. He had informed the Secretary, in good faith, that he believed that gentleman was dead, but asked that the statement might be verified before being acted upon. Living, as he did, near Mr. Beeson, the Secretary no doubt thought he ought to know. He regretted that when attention was called to the matter at the meeting of the Council the opportunity was not given to him to correct the mistake and express his regret in the same number of the *Veterinarian* as that in which the report of the Council meeting appeared. He desired now to say that he regretted exceedingly that he should have been the means of the mistaken announcement being made.

The SECRETARY said no doubt Mr. Wilson would remember stating to him that he ought to know the fact, because some one had succeeded Mr. Beeson in his business.

Mr. SMITH (of Norwich) thought that an unfair attack had been made upon provincial members by Mr. Hunting, but he desired to say on their behalf that they were not so inefficient and uneducated as Mr. Hunting seemed to regard them.

Mr. HUNTING said he had not in any way sought to depreciate the provincial members, for whom he had the greatest respect; he only complained of what he thought was the unfair advantage given to them in reference to the balloting papers.

Mr. SMITH said that no such organization as Mr. Hunting had referred to existed in the eastern counties.

Mr. WILLIAMS thought that Mr. Hunting, instead of depreciating the provincial members, had indirectly complimented them for their shrewdness in organising themselves for the purpose of securing the election of their candidates.

Mr. DRAY moved the adoption of the report.

Mr. HELMORE, in seconding the motion, congratulated the members upon the efforts made by the Council for the advancement of the profession generally. In order to keep themselves above the Board Schools, it was necessary to be actively at work, and the Council had been anticipating the necessities of the profession in a most creditable way. He thought that some steps should be taken to let the public know what had been accomplished in advancing their position as members of a liberal profession.

The result of voting at the election of members of Council was as follows, viz. :—

Mr. Peter Taylor . .	560	Mr. Robert L. Hunt.	301
„ John Cuthbert . .	484	„ William Smith .	211
„ Richard Reynolds .	458	„ Thos. D. Lambert	154
„ Francis Blakeway .	440	„ Martin E. Naylor	154
„ Benjamin Cartledge .	410	„ Tom P. Gudgin .	150
„ Matthew J. Harpley .	379	„ James Lambert .	145
„ James Collins . .	339	„ George Williams.	111

Messrs. Taylor, Cuthbert, Reynolds, Blakeway, Cartledge, Harpley, Collins, and Hunt were declared duly elected. The President decided by lot, in accordance with the provisions of the Charter, that Messrs. Hunt and Collins fill the vacancies caused by the deaths of Mr. John Wilkinson and Mr. Wm. Field, jun.

The meeting terminated with a vote of thanks to the President for the very efficient services he had rendered to the Council during the past year.

In the evening the annual dinner took place at the Freemasons' Tavern,

when nearly eighty members of the profession were present. Among the guests were Lord H. A. G. Somerset, Sir C. S. Paul Hunter, Bart., and Col. Kingscote, C.B., M.P. Lord Waveney had signified his intention of honouring the dinner by his presence, but he was unfortunately detained by his parliamentary duties. It is unnecessary to mention that, under the auspices of our worthy President, the gathering could be nothing but a congenial one.

CENTRAL VETERINARY MEDICAL SOCIETY.

AT an ordinary meeting of the above Society, held Thursday, April 19th, at 10, Red Lion Square, W.C., at 7 p.m., Mr. Thos. Burrill in the chair,—

Mr. WOODGER, sen., in bringing forward a case of fractured tibia, said such fractures were not unusual, but the following case was interesting, being from a six-year-old Flemish mare working in a 'bus. An accident happening, she began kicking, and got her legs between the splinter bar and wheel. When sent to the infirmary she was hardly lame at all; there was a superficial wound inside the tibia; being tied up, this was attended to, and got on well, but she was not worked again for some four weeks, when she was put in a straw van previous to resuming work the next day, and the following morning was found with a broken leg. The question arose whether it was done in the box (a large one), or at the time of the accident, a month and three days prior. He had known instances of horses being kicked walking sound and yet indicating a broken limb the next day; here there was no inflammatory swelling.

Mr. SHAW had had a similar case in the cattle market, where there was but little swelling; this was attended for three weeks, then sent home, and a fracture of the tibia noticed next day; he dated it from the accident.

Mr. T. J. MAVOR was of opinion that a large number of fractures occur the same way which are never suspected, and heal from the rest afforded. He considered the fracture took place when the accident happened, and from its appearance there was not much disposition to throw out bony matter and reunite, as there was no deposit.

Mr. HOWARD and the Secretary concurred in the above opinion. Mr. Howard, looking at the fact of no deposit being present, considered it an instance of *fragilitas ossium*. In a similar case the horse was led out the subsequent day to examine it and ascertain the seat of lameness, when the bone collapsed in five places, laying the animal on the side, and it had to be killed on the spot. The Secretary showed that part of the fractured edge was rounded off from absorption, and not attrition.

Mr. F. SMITH considered the strength of the *fascia lata* had temporarily prevented displacement.

The CHAIRMAN held this case was unusual, as there were four pieces of bone here; he rather inclined to the belief that it had happened during the night. As an agenda to his remarks, Mr. Mavor was inclined to believe it became comminuted in falling when being destroyed.

Mr. THOMAS MOORE, in introducing a method of keeping firing-irons hot, said this was a French invention, and had been described at the Academy of Science, in France; being introduced to the English veterinarians by Mr. Mayer, of Great Portland Street, who had attended with him to describe it. Mr. Mayer said a small bottle of benzine would suffice for half a day to keep the irons red hot: being first slightly warmed in a flame of spirit, gas, etc., their heat was augmented by a vapour of benzine projected through an anæsthetic apparatus more or less rapidly as required; it was composed of platinum, and could be of any size or shape—the expense of that shown being £5 5*s.*: unless platinum were used the agent would burn away.

It was the general impression of the Fellows that the apparatus was very ingenious and serviceable, but that the cost would militate against its use; and that in London, or towns generally, we had facilities for keeping to the present method, while for country practitioners it would be of more service.

Mr. FRED. SMITH then read his paper on Amaurosis, in the treatment of which, when caused by local injury, he advised purging and bleeding, fomentations with belladonna lotion, and the internal administration of calomel 3j et opii 3ss. In cases of Sympathetic Amaurosis, the result of chronic inflammation, or disorganization of the opposite eye, he suggested hypodermic injection of strychnia 1 gr. twice daily, over the orbital process, gradually increasing the quantity, or sprinkling it over the blistered surface. In cases ascribed to vascular exhaustion he suggested tonics, the iron preparations, and blistering at the orbit. In the discussion

Mr. MAVOR said he agreed with Mr. Smith that, when called in, it was mostly too late to do anything in the hope of a successful issue. He could not accept his views of treatment. In the medical profession he knew calomel was usually prescribed; but he did not know why, as the drug acted physiologically on the skin and glandular structures. Now, in cases due to injury, where a clot might be suspected, he would advise aconite; in chronic cases, when it was important to restore the function of the coats of the vessels, he advised ergot, because of its specific action.

Mr. HOWARD had met with a good number of cases in Cincinnati, especially amongst mules, with which it prevailed most; it is there looked upon as hereditary. The mules, the subjects of Amaurosis, are kept for sawing wood; they are put in the fore-part of a cart which is in a slanting position, the bottom being movable, and passing over rollers communicating with wheels turning a circular saw. He did not believe mercurial drugs were indicated; but preferred those of a tonic and neurotic character, and to promote the general good health of the animal. Considered the liver and stomach often implicated in eye disorders; if a man suffers from a disordered liver he complains of imperfect vision, and sees motes in the air. Sudden vertigo has often followed from the same cause.

The CHAIRMAN held that, from the variety of causes, no single line of treatment could be followed out; he believed the disease occasionally due to mal-nutrition of the optic nerve.

Mr. SMITH having replied,

Mr. MAVOR directed attention to a drug recently introduced into practice — the bromo-hydrate of conia. Finding that conia itself gave rise to an immense amount of irritation of the skin, he applied to Messrs. Morson, of Southampton Row, for a salt of conia, which after some time was obtained —from France, he believed. It is more convenient for hypodermic injection than conia, its effect being the relaxation of the voluntary muscles and drooping eyelids, etc. He gave it in two 5-gr. doses, at interval of six hours, in Tetanus; 6 grs. set up the effects of conia.

The meeting then adjourned. *Present*—11 Fellows and 1 Visitor.

JAMES ROWE, JUN., *Hon. Sec.*

EDINBURGH VETERINARY COLLEGE.

AT the meeting of the members of the Dick Trust, held in April, the prizes were delivered to the students attending the College, and who had been successful in the competitions. These were :—The Dick Trust Gold Medal for the Best Student of the Session—Archibald Baird. Dick Trust Silver Medal for Great Merit—Charles Gelderd. Highland and Agricultural Society's Gold Medal for the Best Practical, and Gold Medal for the Best

General Examination (open to all the schools)—Archibald Baird. Highland and Agricultural Society's Silver Class Medal for the Best Examination in Chemistry, Botany, Horse Pathology, and Physiology—Archibald Baird.

Materia Medica and Anatomy—Charles Gelderd.

Cattle Pathology—Joseph Oswald Martin.

Edinburgh Veterinary Medical Association Silver Medal for the Best Essay of the Session—William Reekie : subject, "Epizoötic Aphtha."

Certificate of Merit for the Second-best Essay—Thomas Young : subject, "Influenza in the Horse."

Certificate of Merit for the Best Preliminary Examination, Sessions 1875 to 1877—Thomas Peter Young.

GLASGOW VETERINARY COLLEGE.

THE winter session at this institution terminated on Thursday last, and on Friday and Saturday the oral examinations of the Royal College of Veterinary Surgeons were conducted within the Museum of the College. The candidates for diploma were also subjected to a rigid practical examination, conducted on horses, cattle, and sheep selected and brought to the College for that purpose.

The Board of Examiners included the following gentlemen :—Professor Allen Thomson, Glasgow University, president; Professor Alexander Dickson, Glasgow University; Professor Crum Brown, Edinburgh University; Dr. Dunsmure; J. Harpley, Esq., F.R.C.V.S., London; George Fleming, Esq., F.R.C.V.S., London; William Robertson, Esq., F.R.C.V.S., Kelso; Alexander Robinson, Esq., F.R.C.V.S., Greenock; B. Cartledge, Esq., F.R.C.V.S., Sheffield.

The following gentlemen were also present as *ex-officio* members :—Principal M'Call, Professors Knox, Cooke, M'Gill, and Skirving, Veterinary College, Glasgow.

Nineteen gentlemen presented themselves for their final professional examination, and eighteen passed very creditably, and were awarded the diploma of the Royal College of Veterinary Surgeons. Their names were given in our last issue.

Medals given by the Highland and Agricultural Society of Scotland, and certificates of merit granted by the College, were awarded in the different branches of study as follows :—

Horse Pathology (Written Examination).—Medallist : James Macqueen; 1st Class Certificate : James Wilson, George Gair, F. J. Insall; 2nd Class Certificate : David Thomson, Thomas Robertson, John Gray, John Pollock, D. M'Farlane.

Cattle Pathology (Written Examination).—Medallist : George Gair; 1st Class Certificate : James Macqueen, F. J. Insall, James Wilson; 2nd Class Certificate : John Gray, Thomas Robertson, John Pollock.

Histology and Physiology.—Medallists : James Wilson and James Macqueen; 1st Class Certificate : David Thomson, F. J. Insall, Thos. Robertson, John Pollock, D. Macfarlane; 2nd Class Certificate : George Gair, Clayton Hingston, D. Sinclair, John Gray, H. A. Woodroffe, R. M'M. Banks.

Practical Examination of Cattle and Sheep as to Age, Operations, Soundness, etc.—Medallist : Donald Macpherson; 1st Class Certificate : John Pollock, James Wilson, D. M'Farlane, John Gray, John Buntain; 2nd Class Certificate : W. F. Houston, A. Martin, James Macqueen, George Gair.

Practical Examination of Horses as to Soundness, Age, etc.—Medallist : James Wilson; 1st Class Certificate : John Pollock, A. Clarke, D. Macpherson, John Gray, John Hingston; 2nd Class Certificate : D. Thomson, W. F. Houston, A. Martin, D. M'Farlane.

Best Oral Examination on all subjects.—Principal M'Call's Gold Medal awarded to James Macqueen.

At the close of the examination the President intimated that the candidates for admission to the profession had acquitted themselves in a most satisfactory manner, and the fact of only *one student out of nineteen* having failed in obtaining the diploma of the College bore ample testimony to the care, labour, and knowledge displayed in the tuition of the students of the Glasgow Veterinary College. Professor Thomson also intimated that, in accordance with the resolution of the Council of the Royal College of Veterinary Surgeons, Messrs. Macqueen, Wilson, Insall, Banks, and T. Robertson, had obtained such distinction in all the subjects of examination as to entitle them to the "honorary degree," and that the Secretary (Dr. Dunsmure) would notify this to the Council in London.

NEW VETERINARY COLLEGE, EDINBURGH.—PRIZE LIST.

MEDALS presented by the Highland and Agricultural Society of Scotland:—

Horse Pathology.—Medallist: W. R. Lewis; 1st Certificate of Merit: George Marshall; 2nd Certificate of Merit: Alexander Bain.

Cattle Pathology.—Medallist: Alexander Bain; 1st Certificate of Merit: George Marshall; 2nd Certificate of Merit: Frederick Glass.

Physiology.—Medallists: Thomas Cowan and H. T. Hodgkinson, equal; second medal was given by Dr. Young.

Medal given by Dr. Stevenson Macadam for Chemistry.—Medallist: T. H. Lewis; 1st Certificate of Merit: William Atkinson.

Medal given by the Principal for best Anatomical Preparations.—Medallist: William Atkinson.

Seventy-three students attended the classes during the session just closed. Seventeen presented themselves for the diploma of the R.C.V.S., and of these three were relegated to their studies.

ONTARIO VETERINARY COLLEGE.

THE examinations at this institution were concluded last April. It was stated by one of the speakers that this College was probably the first of its description on the American continent, and it is, therefore, not out of place to give the names of the staff of Professors: Professor Smith, V.S., Principal; Dr. Thorburn, Dr. Barrett, H. H. Croft, D.C.L., Professor Buckland, and J. T. Duncan, V.S. The Examining Board were: Mr. Gowan, V.S., Galt; Mr. Coleman, V.S., Ottawa; Mr. Wilson, V.S., London; Mr. Sweetapple, V S., Whitby; Dr. Thorburn; Dr. Barrett; Mr. Duncan, V.S., Goderich; and Mr. Cesar, V.S., Port Hope.

Dr. SMITH read the following report, which was received with cheers:—

Graduates.—Henry Hopkins, Green River, Ontario; M. H. McKillop, Chicago, Illinois; G. W. Bates, Wellington, Missouri; Herbert Hamilton, Toronto; M. L. High, Bayham, Ontario; R. W. Newton, Belleville, Ontario; E. Kenning, Elmira, Ontario; W. Langtry, Bronte, Ontario; M. Stalker, Ames, Iowa,; E. S. Rogers, Bradford, Ontario; D. Stovel, Mount Forrest, Ontario; R. A. Harding, Kingston, Jamaica.

For Primary.—A. Stephenson, Cobourg, Ontario.

Record of Examinations at the Ontario Veterinary College, Toronto.

Anatomy (Juniors).—William Jex, Brantford, Ontario, first prize; Henry Setterby, Seneca Falls, N.Y., second prize; John V. Newton, Orillia, Ontario, third prize. Honours: G. Falls, Ottawa, Ontario; G. P. Henman, Colborne, P.O., Ontario; A. N. Smeall, Toronto.

Anatomy (Seniors).—G. W. Bates, Wellington, Missouri, first prize; R. W. Newton, Belleville, Ontario, second prize. Honours: W. Langtry, Bronte, Ontario; M. Stalker, Ames, Iowa; D. Stovel, Mount Forrest, Ontario; M. L. High, Bayham, Ontario.

Horse Pathology.—R. W. Newton, Belleville, Ontario, silver medal. Honours: G. W. Bates, Wellington, Missouri; R. A. Harding, Kingston, Jamaica; M. L. High; M. Stalker.

Cattle Pathology.—G. W. Bates, first prize. Honours: R. A. Harding and R. W. Newton, equal; H. Hopkins, Green River, Ontario; M. L. High, M. Stalker.

Entozoa.—M. L. High, first prize; H. Hopkins, E. S. Rogers, Brantford, Ontario, R. W. Newton (equal), second.

Principles of Shoeing.—M. H. McKillop, Chicago, Illinois, first; G. W. Bates, second.

Chemistry.—G. W. Bates, first; W. Stalker, second; W. H. McKillop, third; R. W. Newton, fourth; H. Hamilton, Toronto, fifth.

Physiology.—G. W. Bates, first prize; W. H. McKillop, honours; R. W. Newton, R. A. Harding, W. Langtry, E. S. Rogers.

Medicine.—G. W. Bates, first; R. A. Harding, W. H. McKillop (equal), second.

Breeding of Domestic Animals.—G. W. Bates, R. A. Harding (equal), first; David Stovel, second.

Gold Medal for Best General Examination.—G. W. Bates, Missouri.

The Hon. Mr. MOWAT, in brief and felicitous remarks, presented the medals to the winners—namely, the gold medal to Mr. G. W. Bates, Missouri, and the silver medal to Mr. R. W. Newton, Belleville, Ontario.

The session just closed is marked as the most successful in every respect that has been held in the Ontario Veterinary College.

MONTREAL VETERINARY COLLEGE.

ON March 29th, the distribution of diplomas and prizes to the successful graduates of the year took place in the Veterinary College, Union Avenue. Among those present we noticed, in addition to the examiners presently named, the Council of Agriculture represented by the President, Mr. J. M. Browning, Mr. A. Somerville, and George Leclerc, M.D., Secretary. There were also present, G. W. Campbell, M.D., LL.D., Dean of the Medical Faculty, McGill College; Dr. H. Peltier, Professor of Physiology, Victoria College; Dr. D'Orsonens, Professor of Chemistry, Victoria College, the Professors of the College, etc., etc.

The Board of Examiners appointed by the Council of Agriculture consisted of Dr. Tetu, Dr. Leclerc, Alexander Waddell, M.R.C.V.S., Quebec; James Going, V.S. Edin., New York; Williamson Brydon, V.S., Boston, Mass.; T. A. O. Coleman, V.S., Ottawa; Archibald McCormick, V.S., Beauharnois; Charles Levesque, V.S., Berthier, P.Q.; J. A. Couture, V.S., Montreal, and C. J. Alloway, V.S., Montreal.

The results of the examinations were as follows:—

Zoology.—J. W. Dawson, LL.D., Professor; Isaac J. Miles, Charleston, Ill.; Charles Winslow, Rockland, Mass.; H. J. McMartin, Montreal; Alphonse Levesque, Montreal; and D. Lemay, Board-a-Plouffe, P.Q.,—all passed. Of the first year students, three of the French and one of the English Class were not examined.

Chemistry.—R. Craik, M.D., Professor. Out of seven four only presented themselves, and passed a most creditable examination: Mr. C. Baker, Dunham, P.Q.; F. W. McLellan, Bridgeport, Conn.; D. S. Brown, Genoa, Ill.; M. L. Secton, Montreal.

Physiology.—William Osler, M.D., Professor. Out of eight, five only presented themselves and passed, Mr. Baker especially obtaining a high percentage of marks, being fourth out of thirty competitors : Mr. C. Baker, Dunham, P.Q. ; F. W. McLellan, Bridgeport, Conn. ; D. S. Brown, Genoa, Ill. ; C. C. Lyford, Roscoe, Ill. ; M. L. Secton, Montreal.

Veterinary Materia Medica.—O. Bruneau, V.S., Lecturer ; M. C. Baker and F. W. McLellan, both availed themselves of the option of going up for examination on this subject, and succeeded in passing.

The final examinations for the diplomas comprised Veterinary Anatomy, Veterinary Medicine and Surgery, including the diseases of horses, cattle, and sheep, Canine Pathology, and Veterinary Materia Medica. Seven candidates presented themselves who had attended the required three full sessions regularly and had passed the primary examinations, and being successful in passing this searching ordeal, were admitted as members of the profession, viz. :—James R. McLaughlin, of Watertown, Mass. ; C. C. Lyford, Roscoe, Ill. ; D. S. Brown, Genoa, Ill. ; John F. Ryan, Montreal ; William B. Hall, Leeds, Megantic, P.Q. ; Servil Hebert, Napierville, P.Q. ; and William Murphy, Boston, Mass. The competition for prizes was by written examination, and resulted as follows :—First prize (silver medal), the gift of the Council of Agriculture, won by James R. McLaughlin, Watertown, Mass. ; second prize, won by C. C. Lyford, Roscoe, Ill. ; third prize, won by D. S. Brown, Genoa, Ill. ; honourable mention, John F. Ryan, Montreal.

Second Year Students.—First prize won by Malcolm C. Baker, Dunham, P.Q. ; second prize won by F. W. McLellan, Bridgeport, Conn., U.S.

Mr. Lyford obtained a special prize for anatomy and general proficiency.

ROYAL AGRICULTURAL SOCIETY.

AT the monthly meeting, held on May 2nd, Lieut.-Gen. Viscount BRIDPORT presented the following report of Professor Brown :—

"Immediately after the last meeting of the Council of the Royal Agricultural Society a deputation from the Society, and another from the Shorthorn Society, had an interview with the Lord President, on the subject of the action which had been taken by the local authorities in dealing with outbreaks of Cattle Plague. Both deputations urged the importance of immediate interference on the part of the Privy Council, in order that uniform and consistent regulations might be applied, at least to that part of the country where Cattle Plague had prevailed. In accordance with these representations an Order of Council was passed, which came into operation on April 16th. Under the provisions of this Order the Privy Council has dealt with the outbreaks of Cattle Plague which have occurred since it came into force.

"As soon as the Order was passed, inspectors were appointed for the purpose of making inquiries as to the sanitary conditions of the stock in the Metropolis and its suburbs, and arrangements were made for the slaughter of diseased animals, and the burial or destruction of carcases ; also the slaughter of animals which had been in contact with diseased beasts, and the burning or destruction of manure, offal, and hides, so that nothing but the meat of healthy animals should be removed from an infected place. On this point it may be remarked that no animal was to be deemed healthy which had a temperature indicative of the febrile state. Notwithstanding this precaution, however, several carcases were condemned as unfit for food, owing probably to the rough method of dressing, and the poor condition of the animals. It should be stated that the officers of the Privy Council have no power to condemn carcases on the ground of the meat being unfit for human

food ; and for this reason the medical officer of the district has been asked to inspect them before removal, when it could be done without causing great delay. Arrangements were also made to prevent, as far as possible, the conveyance of the poison of Cattle Plague out of infected places by the agency of persons and things which had been employed about diseased animals.

"The butchers employed have been disinfected before leaving the premises, and the inspectors have instruction to wear waterproof clothing when engaged about places where Cattle Plague exists, and to thoroughly disinfect their clothes before quitting infected places.

"As soon as an inspector, in the course of his inquiries, discovers Cattle Plague, he is confined for the time to the infected place, and after his work there is completed he is instructed to change his clothes completely before engaging in any other inquiry ; and, in addition, he is required to properly disinfect the clothes which he wore when working in the infected place. Further, each inspector is instructed not to enter premises without the consent of the person in charge. It must be obvious that many difficulties have had to be surmounted in the attempt to organise a new system of action on a very short notice ; but I do not hesitate to assert that the inspectors, under the direction of Mr. Courtney, Captain Tennant, and Mr. Ricketts, have done all that could be done to carry their instructions into effect in reference to the slaughter and disposal of animals, the disinfection of premises, and the supervision of stock in the districts where the greatest danger of the spreading of diseases existed.

"The following cases of Cattle Plague have been reported since the Order of April 12th came into operation :—On Tuesday, April 17th, a cow and two calves were found to be suffering from the disease in a shed at Willesden, near the premises in which the first outbreak in that district occurred ; the animals were slaughtered, and buried the same day. On Saturday, April 21st, the disease was detected among a herd of forty-nine cows and thirteen calves, at Harlesden Green ; one cow had died before the chief inspector (Mr. Cope) arrived, and, several others being found to be infected, all the animals were slaughtered by the following morning.

"On Sunday, April 2nd, Cattle Plague was detected in a dairy in Ledbury Mews ; all the cows in the shed, thirteen in number, showing signs of disease. In this case also the slaughter of the animals was carried out as quickly as possible.

"On Monday, April 23rd, the disease was discovered in a herd of seventy-five cattle at Kensal Green ; and soon afterwards another and larger herd of over 130 animals was attacked in the same district.

"On Wednesday, April 25th, another herd of cows, thirty-eight in number, in Ledbury Mews, was attacked, and several of the animals were found to be diseased when the first inspection was made. In all the cases referred to the slaughter of the entire herd was directed.

"On Tuesday, May 1st, information of the existence of Cattle Plague in a cowshed at Stoke Newington was communicated to the Veterinary Department, and the chief inspector found several animals giving decided evidence of the disease. The slaughter of the whole herd (forty-nine in number) was immediately ordered.

"Three important Orders of Council will come into operation on Wednesday, May 2nd : one prohibiting the movement of animals from the county of Middlesex, and their movement within the county except for immediate slaughter ; another one applying similar restriction as to movement of cattle within the Metropolis ; and a third providing for the slaughter of all cattle sent to the metropolitan market within the market area. These restrictive measures have been rendered necessary by circumstances which have come to the knowledge of the Veterinary Department."

The Committee having heard Professor Brown's report, recommended that the Liverpool show be held at the advertised date.

This report was adopted subject to the proviso contained in the first paragraph of the report of the General Liverpool Committee.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

AT a recent meeting of this Society, Mr. ARMSTRONG, Medical Officer of Health, read a second paper on Anthrax, in continuation of that published in the *Veterinary Journal* for March (p. 214). It is as follows :—

"Since the date of the former communication on the outbreak of Charbon in Newcastle there has been no extension of the disease in the borough. Several cases have, however, been reported in the locality from which the hay was derived. Additional information has been gained by visiting the spot, as well as by referring to authorities on the literature of the subject; and questions of pathological import have presented themselves in the course of the inquiry, which may not be without interest and use to the Society.

"With respect to the extent of the epizoöty in the surrounding district, where it is thought to have originated,—of the places visited, at one farm the loss has amounted to eight cows, four horses, and two sheep ; at another to five cows and two horses ; at a third to three cows. These deaths by no means represent the entire mortality.

"An apparently new feature in the epizoöty is the conveyance of the disease by means of turnips. At the place where the three cows died, the cattle in the byre had been fed for four or five weeks—and, so far as could be ascertained, without ill effect—on turnips grown in a certain field on a neighbouring farm where the disease had been prevalent. A fresh supply of turnips was then carted from a different field on the same farm, some of which were given to the cattle ; and next night one of the cows took ill of Charbonous Fever, and was killed on the following day, being at the point of death. Within four days two other cows were slaughtered on account of the same disease.

"It is a question whether the turnips in this case were organically affected by the land on which they were grown, or whether they were merely vehicles of contagium. As Splenic Fever had been for some time, and at the same date in question was still, prevalent at the farm on which they were grown, the turnips may have been manured with infected dung, or the cart in which they were conveyed may have been previously used for the removal of offal of diseased animals. The grower of the turnips grants that the dung of the affected cattle was used for manure, but states that it was not applied to the turnip land. He states also that the cart used for the removal of the offal was not employed for the carting of the turnips to his neighbour. There is, therefore, no proof of either hypothesis as to the turnips being media of contagium. There appears to be no doubt, however, that they were concerned in its spread.

"On being asked whether he had ever lost any stock by sudden death before what is considered the beginning of the present outbreak—namely, last spring,—the grower of the turnips stated that a year past Martinmas a heifer was found dead in the field, but from what cause he could not tell. At a neighbouring farm (that on which the hay, already referred to, was grown) it was ascertained that a cow died last year. The cause was not recognised at the time, but the symptoms corresponded somewhat with those of cattle afterwards dying of Splenic Fever. Neither of the two last cases are included in the deaths of the present outbreak.

"Part of the land of the last-mentioned farm consists of swampy haughs

at a height of from sixteen to eighteen feet above sea level. A channel of stagnant water, spreading here and there into expansive pools, and coated with duckweed and scum, extends across one of the fields, upon which it is said to be dammed back by the rising tide. The grass of the other parts of this field is rank, tufty, coarse, readily uprooted, and in some places almost rotting on the ground. The channel, to which horses and cattle have access, is said to receive sewage among its contents. Bordering other adjoining fields is a deep gutter of dirty-looking liquid, which was stated to be the sewage of a neighbouring village, and whose banks afford a final resting-place to the decomposing bodies of numerous quadrupeds that have perished beneath its waters.

"It should be stated that very much of the other land in the locality lies also at so low a level as to render proper drainage impossible.

"The common opinion of the owners of stock affected by the disease appears to have been that the animals were poisoned, in the ordinary acceptation of the word; and several analyses of the viscera and contents of stomach of the animals have consequently been made, but, as may be surmised, without throwing any light on the subject.

"The strictly accurate term 'blood poisoning,' used by some veterinary surgeons in speaking of the disease, appears to have confirmed this belief. The bailiff of the farm on which the suspected crop was grown at first held the general view, and could not think the hay would carry the disease by *infection*, although he could give no other reason for his stock having suffered severely, and notwithstanding the knowledge that some of his own cattle had eaten it with impunity after it had been steamed. On our second visit, some weeks afterwards, and subsequently on a third, at which Mr. C. Stephenson was present, the bailiff acknowledged himself unable to resist the force of evidence—the disease appearing to him to have followed the hay wherever it had been used for food, and he admitted his belief that this had been the cause of all the mischief.

"Whilst, as stated in the former paper, the idea of poison by human agency was shared by the owners of affected stock in Newcastle—and by some this idea was tenaciously adhered to (the symptoms and course of the cases being beyond the range of their experience as a disease)—there was no hesitation on the part of these owners in accepting the hay as intimately associated with the death of their animals.

"In speaking of the land of one of the farms, allusion has been made to the sewage which is said to find its way there. Without intending to convey that the present epizoöty is due to sewage—of which there is no proof—it is probably not erroneous to assume that if soil become saturated, grass tainted, or water polluted with this liquid, cattle feeding on that grass or drinking that water will be liable to different forms of zymotic disease, of which Charbon may be one. In this, no reflection is intended against sewage farms, for it is only just to allow that land carefully irrigated by a limited supply of sewage is one thing, and land swamped with it is another.

"Samples of the hay are submitted. That marked A is very coarse and straw-like. The other samples are finer. That marked B was sold to a Newcastle dairyman by the foreman of the farm above-mentioned. The samples A, C, and D, were all supplied by a hay-dealer who is known to have bought hay in considerable quantity from the same farm. The sample D—which resembles that of B—was said by the dealer to have been brought from Carlisle, but this may have been after the local growth became suspected. If the above statement be correct, there may still be ground for suspicion against the hay, as there has been a recent outbreak of Splenic Fever in Cumberland, and the produce of the infected land would be likely

to find its way to the Carlisle market.* The outbreak in Cumberland is reported in the *Journal of the Agricultural Society*, vol. xii., second series.

"No further cases of extension of Splenic Fever to the human subject have come under observation.

"Whilst pursuing the investigation in the country, we were told that a butcher had got poisoned in the arm after opening one of the diseased carcases. The medical attendant, to whom we wrote, considered the case one of Phlegmonous Erysipelas.

"The hand of a Newcastle cowkeeper was bitten in an attempt to extract a supposed turnip from a diseased animal's throat. The wounds, though ugly, healed without any ill result. The fingers of the cowkeeper's wife, who administered the medicines to the cows, were affected by an ecthymatous-looking eruption, which she attributed to the saliva of the cattle. The cuticle afterwards peeled off, but no constitutional symptoms appeared.

"The foregoing constitute the chief points of information gathered on the recent outbreak in this district since the date of the previous paper.

"Writers on the subject of Charbon dwell on the virulence of the contagium; and its prolonged vitality even after what would, for other zymotic diseases, be considered disinfection. The "Dictionnaire des Sciences Medicales" (A.D. 1820), in the library, under the head *Pustule Maligne*, states that the principle of contagium clings with almost indestructible tenacity to the skin and hair of diseased animals, even after processes of manufacture or many years' use, as furniture, etc. Insects may carry it.

"Bollinger (article *Anthrax* in Ziemssen's "Cyclopædia of the Practice of Medicine," vol. iii., English translation) says:—'The tenacity of the Anthrax poison—bacteria—is very great. In the dried state the bacteria are able to preserve their virulence during months, and even many years. Davaine succeeded in producing Anthrax by inoculation of dried Anthrax blood twenty-two months old. Einike relates the following case as very well illustrating the virulence and tenacity of the poison:—The skin of an ox (from whose flesh two horses got Carbuncle), which died of Anthrax in the fall of 1852, was soaked in the following spring in the water of a pond, and then made up by a saddler into harness. The saddler got Carbuncle. From a flock of sheep which were washed in the pond four weeks later, twenty perished in a few days of Anthrax; and both of the horses (for whom the new harness was made), after they had worn it for a few days, died of the disease in forty-eight hours.'

"The following are extracts from the same article:—The infectious material is there described as consisting of a vegetable parasite. The disease is stated not to be contagious in the ordinary sense of the term. The poison is, however, highly transmissible, and though a fixed one, may be diffused through the air, and most often enters the body by the lungs.

"Pasteur concluded that the life of the bacteria depended on the presence of oxygen. By the action of the *Schizo-mycetes* (bacteria and vibriones) a rapid oxidation takes place in organic bodies, the products of which are oxygen and carbonic acid, etc. The oxygen, of which these fungi absorb a considerable quantity in this process, is got from the air (when it reaches them), otherwise from the organic substance itself. Hoffmann and Cohn prove that the life of the bacteria depends on oxygen, which they greedily absorb. Davaine found that by sealing up Anthrax blood in five glass tubes, to the entire exclusion of air and consequently of oxygen, the bacteria died in a few days, and inoculation with such blood would not produce Anthrax.

"Bollinger believes that he has proved that bacteria, by rapid increase in the blood, by their need for and chemical affinity for oxygen, take it away

* See Professor Walley's paper in the *Veterinary Journal* for May.

from the red corpuscles, and considers many of the symptoms of Anthrax as merely signs of poisoning by carbonic acid in the blood.

"It has been suggested that there is no proof of the case of human disease recorded in the former paper being one of Splenic Fever. The symptoms as already described, however, correspond so closely with the following description by Bollinger, that, short of a *post-mortem* examination, stronger proof could not well be expected :—

"*Symptoms of Intestinal Anthrax in Man.*—'The symptoms often first appear as debility and depression, with pains in the limbs, a general sense of malaise, pains in the head, dizziness, ringing in the ears, followed very soon by disturbances in the alimentary canal. The patients complain of loss of appetite and gastralgia ; there is moderate swelling of the belly, and, in many cases, a slight difficulty of swallowing. With an increase of the general symptoms, vomiting commonly sets in, followed by a painless, moderate, or more or less intense, often bloody, Diarrhœa, whereby, in very acute cases, the patients very quickly fall into a Cholera-like collapse. As a rule, also, there are present difficulty of breathing, cyanosis, great restlessness, excitement or somnolence, loss of consciousness ; or the patients are fully conscious, and only complain of great pain in the head, or a moderate, sometimes colicky, pain in the belly. The breathing is difficult and accelerated ; the pulse small and frequent ; the temperature very slightly elevated in those cases where the thermometer was used. In several cases epileptiform convulsions were observed, tetanic spasims of the upper extremities, *opisthotonos*, and great dilatation of the pupils. In one case (E. Wagner) the course was irregularly intermittent. Localizations of the disease are frequently found in the integument in the shape of little carbuncles, a diffuse phlegmon or gangrene. On the mucous membranes of the cavities of the mouth and nose bloody suffusions and hæmorrhagic collections are seen. There is a continued bleeding from the mouth, and the escaped blood shows a lack of power of coagulating. In the cases thus far observed, with one exception (case of Leube), the termination was always fatal, either within the first twenty-four hours, or after two, three, five, or seven days, with symptoms of cyanosis, asphyxia, and the most extreme collapse.'

"Since the reading of the former paper, it has been suggested that the idea of bacteria in the blood is an exploded one, and that the supposed organisms are shreds of tissue, etc. On this point I ask leave again to quote Bollinger, who remarks that since 1855 these bodies have been considered by various observers as bits of fibrin, shreds of tissue, blood crystals, etc. Davaine, in 1863, pronounced them bacteria, after which there was much confusion as to these and other bodies found in the blood. This confusion, says Bollinger, has been set at rest by microscopical and experimental proof.

"In the course of the inquiry, certain matters have appeared to the writer to be worthy of further investigation ; indeed, in passing, the study of the general pathology of the lower animals is a subject of much importance to the human race, and from the comparative facilities for its prosecution, should be one of the greatest interest to the medical profession.

"Perhaps one of the most striking of these matters is the difference of fluidity of the blood in different parts of the same diseased body—that in and near the heart being thin and watery, that in the spleen thick and tarry. The same conditions, but in less marked degree, occur in other human zymotic diseases, but chiefly in Typhus. Another point of resemblance between Typhus and Splenic Fever, and one probably also depending on the same cause, is the occurrence of vibices and petechiæ, whose number, depth of colour, and extent appear to be in relation to the severity of the case in both diseases. In Malignant Pustule, at the second or third

day, bacteria are said by Bollinger to be found chiefly near the centre of the tumour, and in little groups, afterwards spreading outwards to the entire organism. Whether the same grouping of bacteria exists in the blood of Splenic Fever and Typhus, and if so, whether the bacteria, by their affinity for oxygen, break up the fibrin of the blood, and so cause its greater fluidity in certain places, are questions for solution. The observed cases of Charbonous Fever in man have differed widely from human Typhus in general symptoms, but the appearance of the blood in one disease resembles that in the other.

"Charbonous Fever also resembles the petechial and hæmorrhagic forms of Malignant Smallpox, in which the fluidity and tendency to extravasation of the blood is remarkable—weals and petechiæ being prominent symptoms in the former, and sanguineous oozing from all the mucous surfaces the chief sign in the latter.

"From what has been said as to the vitality of the Charbon virus, it can scarcely be expected that we have seen the last of the epizoöty in this neighbourhood. If Continental experience be paralleled by the present case, we may have a recurrence of the disease from time to time, or even the establishment of a confirmed Charbon district."

CLINICAL SOCIETY OF LONDON.

Rare Eruption on the Arms, the Result of Infection from a Horse.

MR. MORRANT BAKER exhibited for Mr. LANGTON, who was unable to be present, a patient with a rare eruption on both forearms, simulating Vaccinia. There were twelve large vesicles on one arm and seven on the other, besides one on the back of the hand. Excepting their large size, and the comparative absence of local inflammation, there was nothing to distinguish them from vesicles resulting from vaccination. There was now no constitutional disturbance, although soon after the eruption first appeared there were pains in the head and limbs, and some feverishness. The patient was a healthy man, twenty-two years old, a groom, who eleven days before began to tend a horse suffering from inflammation of the legs and cracked heels. On the following day he noticed on both arms, at a place where the skin was chapped, several red pimples; and these gradually developed until they assumed the appearance of mature vaccine vesicles. On the seventh day of the eruption the patient came to St. Bartholomew's Hospital, and was admitted, in order that the case might be watched. No fresh symptoms, however, appeared; and now, on the tenth day, the eruption was subsiding exactly like Vaccinia of a similar age. There could be little doubt that the case was one of infection from a horse suffering from the disease which was described by Jenner as the "Grease," and which, when transplanted to the cow, developed further as Cow-pox. The patient had been exposed to no other likely source of infection; and the appearance of the disease was identical with that delineated by Jenner in his work on the Cow-pox as produced on a child's arm by inoculation from the hand of a man who had become diseased in consequence of dressing a mare's leg affected by the Grease. The patient had been vaccinated in infancy, and bore good scars. A drawing of the disease as it appeared on the seventh day of the eruption was also exhibited.*

* There is nothing very unusual in this case. It is well known that Horse-pox is transmissible to mankind, and we have so stated in "Veterinary Sanitary Science and Police," and given our personal experience. Quite recently the disease prevailed extensively among horses at Montreal, and Professor McEachran reports several instances of people being infected.

The PRESIDENT had seen such cases but very rarely.

Dr. SOUTHEY had never seen such a case in the Skin Department of St. Bartholomew's Hospital. The man's axillary glands were enlarged.

Dr. DYCE DUCKWORTH said the vesicles were quite characteristic when first seen. It was curious that ordinary Vaccinia did not protect from this.

Dr. GREENHOW remarked on the fever which accompanied Vaccinia direct from the heifer.

THE CONTAGIOUS DISEASES (ANIMALS') ACT, 1869.

THE Privy Council have appointed George Wentworth, M.R.C.V.S., to be an inspector for the purposes of the above-mentioned Act. Frederick Keal, M.R.C.V.S., has ceased to be an inspector.

Army Veterinary Department.

Gazette, May 1.

LANARKSHIRE YEOMANRY CAVALRY.—W. Boyle, gent., to be Acting Veterinary-Surg., *vice* W. Cockburn, deceased.

Veterinary-Surg. S. R. Sartin, R.A., proceeds to Kamptee, to take charge of R.A. at that place.

Veterinary-Surg. M. Anderson assumes charge of the 4th Light Cavalry.

Veterinary-Surg. M. C. Mitchell, R.H.A., has leave for four months on medical certificate.

Veterinary-Surg. J. Hammond, R.A., has leave to Bombay to appear before a Medical Board.

THE Government of India have revised the rules for allotting and casting horses. The following are the leading features of the new system :—

1. Every remount selected and allotted by a committee appointed for the purpose must be accepted ; no appeal being allowed, except to the annual casting committees in the following season, when the horses will have had a trial.

2. The horses are to be divided into four classes, and the selections of each class to be made in the following order :—

(1.) Such as are fit for Horse Artillery.
(2.) " " Field "
(3.) " " Medium Cavalry.
(4.) " " Hussars.

3. Officers of the different branches are not to choose horses individually and in succession ; the horses are first to be declared fit for the service by the general sense of the Committee, and all such as are pronounced serviceable are to be selected, whether perfectly sound or not.

4. The remounts are to be selected with reference to their qualifications for the different branches of the service, and not on account of their value.

5. Committees are not to reject a remount unless clearly unfit, from his general character, for the public service, even although he may not be considered a perfectly sound horse.

6. Horses the property of Government, whether belonging to artillery, British or native cavalry, supposed to be infectiously diseased, are to be

removed out of the cantonments, and the officer commanding the station is to assemble a committee, attended if possible by a veterinary surgeon, to inspect the horses; and if in their opinion the disease is of an infectious nature, the horse is to be destroyed at once. The clothing of the attendants is not to be destroyed, but submitted to the boiling process, as described for Small-pox and Cholera clothing.

7. At all stations where Glanders and Farcy, or other infectious diseases, have shown themselves, the cattle are to be carefully examined at least twice a month, until every trace of disease has disappeared.

CASTING RULES.

1. The annual casting committees of the Upper and Lower Circles respectively will be presided over by the Director of Army Remount Operations in alternate years, and by an officer nominated by the Commander-in-chief, assisted by, in the former case, an officer selected by His Excellency, and in the latter a stud officer named by the Director of Army Remount Operations, with the Inspecting Veterinary Surgeon of each circle as member.

2. In emergent cases special casting committees may be assembled at other times; but, as a rule, horses are only to be cast once a year.

3. The maximum of casting is not to exceed nine per cent.

4. Certified full copies from the "Record of Treatment" must accompany all veterinary cases.

5. The term "old and worn out" is not to be used for horses proposed to be cast, if under sixteen years of age.

Horses over that age may be cast on that account, provided the veterinary report certifies to their being worn out.

6. Horses may be sent to reserve depôts for change of air and rest, but are to be at the same time retained on the strength of their respective batteries or regiments.

7. Cast mares under fifteen years of age, and recommended by the Committee for breeding purposes, are not to be sold, but to be sent to the various breeding centres.

Obituary.

WITH deep regret we announce the death of Staff Veterinary Surgeon W. Partridge, which mournful event took place on April 26th, in the forty-sixth year of his age. Our deceased colleague graduated in May, 1853, and was gazetted to the army in November, 1854. In June, 1862, he was promoted to the rank of First Class, and in October, 1871, to that of Staff Veterinary Surgeon. In July, 1875, he was placed on half-pay by recommendation of a Medical Board, and was on half-pay at the time of his death. Mr. Partridge served in the Crimea from February 1855 to the end of the Russian war, and received the medals given on that occasion. With the 17th Lancers he went through the whole of the Central Indian Campaign during the Mutiny in 1857; and in 1867 he was employed at Alicante, in Spain, purchasing mules for the Abyssinian Expedition, and received the thanks of H.R.H. the Commander-in-Chief and Secretary of State for War for the manner in which he discharged this duty. During his service in the Crimea, he suffered severely from fever and ague and rheumatism; and towards the termination of the Indian Campaign from dysentery, in addition to rheumatism and fever: so precarious, indeed, was his health at this time, that he was carried

on dhoolies for fourteen days before being admitted into the officers' hospital at Calcutta, whence he was invalided home. The illness thus contracted in the service of his country at most critical periods in its history, laid the foundation for a bad state of health, which continued with slight intermissions, though always increasing in seriousness, until he finally succumbed. Mr. Partridge's professional abilities were of a very high order, and but for his broken-down health—due to the hardships of war in foreign climates—he would have done much to promote his calling. Of his gallantry in the field there can be no question; and on one occasion, during a cavalry skirmish at Kertch, he saved the life of a soldier of the 10th Hussars, who was struck down by Cossacks, and succeeded in bringing him out safe by means of his own sword. This incident is alluded to in a graphic and spirited description of the encounter, which appeared some time ago in the *Cornhill Magazine*. Had his bravery on this occasion been represented, there can scarcely be a doubt that he would have received the honour of the Victoria Cross. Mr. Partridge has left a wife and young family to deplore his untimely death, and we are sorry to learn that they are badly provided for. The very insufficient remuneration an Army Veterinary Surgeon receives on full pay, and the miserable pittance allowed while on half-pay, leave no margin to provide for the wants of a family in case of death. In such circumstances they need more comfort than mere passive sympathy.

The following deaths have been announced to the Registrar of the Royal College of Veterinary Surgeons :—

	Diploma dated
Mr. Rodney Strutt, Newark, Notts . . .	April 29, 1868
„ Robert Halsall, Southport, Lancashire .	April 24, 1867
„ Thos. Greaves, jun., Burnley, ditto .	April 16, 1869
„ Walter F. Russell, Newbury, Berks .	April 25, 1864
„ Thos. D. Wiltshire, Pontypool, Mon. .	Sept. 12, 1842
„ Alex. Ellison, Tain, Ross-shire . .	April 27, 1847
„ James Bowie, Hawick, Roxburghshire .	May 17, 1854
„ Alex. Stewart, Rothiemay, Banffshire .	April 25, 1866
„ James Horsburgh, Dalkeith, Edinburgh .	April , 1835
„ John Currie, Caitha, Midlothian . .	April 20, 1838
„ John Worship Riches, Acle, Norwich .	April 15, 1840
„ Joseph R. Dobson, Kettering, Northants.	May 18, 1853

Mr. Joseph Richard Dobson, an author of some repute, was one of those candidates who, in January last, reluctantly declined the honour of election as a primary Fellow of the Royal College of Veterinary Surgeons, in consequence of failing health. He was only forty-seven years of age.

Italian veterinary science has sustained a serious loss by the death of Professor Papa, who died at Turin on February 5th. Papa bore a high character as an advanced student of science in general, but particularly of that which he specially cultivated. He was Secretary-general of the Royal and National Veterinary Society of Italy, and one of its most zealous and devoted members. He was also, for more than twenty-five years, the director of the *Giornale di Medicina Veterinaria Practica e di Zootecnia*, and the author of very many works, some of which have become classical and are of great value. These are chiefly on medicine, surgery, zoötechny, and agriculture. A member of many learned societies, Papa was one of the most renowned and prolific veterinary writers in Italy—a country which could always boast of distinguished veterinarians, but which will greatly mourn its present loss.

Notes and News.

GERMS."—Professor Tyndall occupied the chair at the concluding lecture of Dr. Corfield's course on the laws of health. The subject of the lecture was "Infectious Diseases." Professor Tyndall, in proposing a vote of thanks, paid a high compliment to the lecturer for the thoroughly sound instruction which he had so clearly conveyed. Referring to the cause of the diseases, he said that a close study of the subject, extending now over two years, enabled him to agree entirely with the lecturer in the parallelism throughout which he had declared to exist between the phenomena of these disease-poisons and the phenomena of ordinary putrefaction. Take the case of flies communicating diseases from one person to another: that was exactly paralleled by phenomena in putrefaction. Thus he had chopped up a beefsteak, steeped it in water, raised the temperature a little above the temperature of the blood, poured off the water, filtered it, and got a perfectly clear liquid; but that, placed in a bottle and exposed to the air, began to get more and more turbid, and that turbid liquid, under the microscope, was soon found to be swarming with living organisms. By heating this perfectly clear beef-tea, it would be sterilised, everything being killed which was capable of producing those little organisms which produced the turbidity; or by keeping it perfectly stopped from the air and from coming in contact with any floating particles, it might be preserved for years. He had now some sterilised beef-tea of this sort, which had been preserved for eighteen months, in a state of perfect transparency; but if a fly dipped its foot into an adjacent vessel containing some of the turbid fluid, and then into the transparent fluid, that contact would be sufficient to infect the sterilised fluid—just as a surgeon dipped the point of a lancet into vaccine lymph to vaccinate; and in forty-eight hours the clear liquid would be swarming with these living organisms. In this, as in the case of contagious disease, there was a period of incubation. Referring to another point on which the lecturer had insisted—viz., that there was no power of spontaneous generation of the germs or contagion of diseases—Professor Tyndall said that though at present great names were opposed to that view, he would venture to predict that ten years hence there would be very few great names opposed to the lecturer on that matter. With regard to the power of disease-poisons to be generated in decomposing animal matter, he would say that for the last twenty-one years he had been the habit of visiting the upper Alpine valleys, where among the Swiss châlets there was the most abominable decomposition going on from day to day, and exceedingly bad smells; but there these contagious diseases were entirely unknown. If, however, a person suffering from Typhoid Fever were transported there, it would spread like wild-fire from this infected focus, and the disease would pass through the entire population. He entirely agreed with all that the lecturer had stated as to these diseases "breeding true," for they never found the virus of Small-pox producing Typhoid, or *vice-versa*. The subject was one of the most important which could engage the attention of the scientific physician: indeed, in the whole range of medical art and science, there was not a subject of equal importance. Here, in England, we did not like to be pressed into good behaviour by external influence, and if anything was to come in the way of really great sanitary improvement it would be from the people themselves. Hence, in a people who were jealous of government interference, it was of primary importance that they should be properly instructed.

A BOGUS DIPLOMA MILL.—The Philadelphia Veterinary College of No. 903, Filbert Street, has burst like a beautiful bubble; and the provost, secretary, treasurer, and faculty, represented in the one person of Robert McClure, horse

doctor, are now safely stowed away in a little cell in the county prison. The police authorities have suspected for some time that this "institution" was not granting diplomas "on the square," but on the plan of Dr. Buchanan of the Pine Street Medical College; and so a scheme was incubated to get down to it. A young man named Francis Standin some time ago opened a correspondence with McClure, with a view to the purchase of a diploma, that he might blossom into a full-fledged horse, mule, and—if the occasion required it—cow doctor. He offered to transfer three shares of the Green and Coates Streets Railway Company as the price of the "sheepskin," which hardly met the approval of McClure. He wanted cash. Standin notified the detectives of what he was doing, and wrote to McClure that he would be at his office yesterday with the money, and would expect to receive the diploma. The price hit upon was one hundred and twenty dollars. The money was marked, and the young man saw McClure, who delivered the diploma, which was filled out, sealed and signed with the names of several horse doctors. A few minutes after a Central Station detective walked in and arrested the diploma man. In the office were found several other sheepskins already filled out with the names of those for whom they were intended. One was marked with the price—one hundred dollars. A batch of correspondence was found in the office, showing that McClure had carried on a lucrative business. He was arraigned before Magistrate Pole, at the Central Station, yesterday afternoon, and upon the strength of the above evidence was required to give three thousand dollars' bail for another examination on Tuesday. He subsequently acknowledged that the college is a bogus concern; or, in other words, that he is the college.—*American Paper.*

TICKS IN THE HORSE'S EAR.—From the *Pacific Rural Press*, published at San Francisco, we learn that there is a peculiar disease to which horses are liable in some parts of the far west. The malady has hitherto been supposed to be the result of their eating a poisonous plant common in some districts, and known by the Spanish name of "loco weed." A horse suffering from the disease is said to be "locoed." The seat of the affection is supposed to be in the brain. The disease causes the animal to seemingly lose his intelligence, his appetite, and ordinary instincts, grow poor and spiritless, and wander aimlessly about, if permitted to do so. The Visalia *Delta* announces the discovery, by a Mr. Ashton, that an insect which takes possession of the ears of the horse produces the symptoms. A horse suffering from it would hardly permit his head to be touched, but when it came to feeling into his ear, with good sense he showed his master that he was on the right track, by holding still. Here was the secret. One after another Mr. Ashton brought out a sort of bug or ear-tick, with about half a dozen legs. A large number were found in the ears of his horses, which speedily recovered their wonted spirit when relieved of these pests. It is satisfactory to know that several experiments made for an ointment to destroy the vermin resulted in finding that a mixture of one drop of carbolic acid to thirty of sweet oil, mixed and placed in the ear, would immediately kill the ticks without doing injury to the horse. Mr. Ashton's discovery is new—if true!—*The Farmer.*

THE HORSES OF TARTARY.—"The country now began to change its snowy aspect, and parti-coloured grasses of various hues dotted the steppes around. The Kirghiz had taken advantage of the more benignant weather, and hundreds of horses were here and there to be seen picking up what they could find. In fact, it is extraordinary how any of these animals manage to exist through the winter months, as the nomads hardly ever feed them with corn—trusting to the slight vegetation which exists beneath the snow. Occasionally the poor beasts perish by thousands. A Tartar who is a rich

man one week may find himself a beggar the next. This comes from the frequent snowstorms, when the thermometer sometimes descends to from 40° to 50° below zero (Fahr.); but more often from some slight thaw taking place for perhaps a few hours. This is sufficient to ruin whole districts. The ground becomes covered with an impenetrable coating of ice, and the horses simply die of starvation, not being able to kick away the frozen substance, as they do the snow from the grass beneath their hoofs. No horses which I have ever seen are so hardy as these little animals, which are indigenous to the Kirghiz steppes; perhaps for the same reason that the Spartans of old excelled all other nations in physical strength—but with this difference: that Nature doles out to the weakly colts the same fate which the Spartan parents apportioned to their sickly offspring. The Kirghiz never clothe their horses, even in the coldest winter. They do not even take the trouble to water them—the snow eaten by the animals supplying this want. Towards the end of the winter months the ribs of the poor beasts almost come through their sides; but once the snow disappears, and the rich vegetation which replaces it in the early spring comes up, the animals gain flesh and strength, and are capable of performing marches which many people in this country would deem impossible—a ride of a hundred miles not being at all an uncommon occurrence in Tartary. Kirghiz horses are not generally well-shaped, and cannot gallop very fast; but they can traverse enormous distances without water, forage, or halting. When the natives wish to perform any very long journey, they generally employ two horses; on one they carry a little water in a skin and some corn, while they ride the other—changing from time to time to ease the animals. . . The Kirghiz do not have their horses shod, except when about to travel over very rocky ground. In winter and in summer the active little animals traverse the deserts, the hoof itself affording ample protection; and a lame or unsound steed is with them a rarity, while a hundred miles in a day has frequently been accomplished by some of the Kirghiz horsemen. . . We are apt to think very highly of English horses, and deservedly, so far as pace is concerned; but if it comes to a question of endurance, I much doubt whether our large and well-fed horses could compete with the little half-starved Kirghiz animals. This is a subject which must be borne in mind in the event of future complications in the East."—*Burnaby's "Ride to Khiva."*

RABIES IN AUSTRALIA.—Rabies has not hitherto been met with in Australia. The *Sydney Morning Herald* states that during one of the hottest days of last week, however, a gentleman residing at Darling Point, who owned a valuable and hitherto quiet dog, observed symptoms of madness. The dog attempted to seize and spring upon a female domestic, who was only saved by the owner slamming the door against his entrance. Subsequently he tried to jump a fence and attack his master, but was unequal to the jump, the wall being too high. Having no doubt that it was a case of madness, the owner at once shot the animal. A case of a similar nature was reported in a Victorian paper some time ago. Were these cases of Rabies, or only disease of the brain?

PRIESTS AND DOCTORS IN PRUSSIA.—Deaths from Hydrophobia, which have occurred recently in the Prussian-Rhenish province, have called the attention of the Government to the practice, much prevailing there, of having persons who show symptoms of Hydrophobia treated, instead of by a medical man, by a Roman Catholic priest. The consequences have naturally enough and invariably been disastrous to the patients. Another superstition existing in the Rhenish province is the belief that the bite of dogs which have been burned with the Hubertus key can never be dangerous, and this belief is producing a large revenue to a Belgian convent, which sends out emissaries

with Hubertus keys to perform this interesting operation. The Prussian Government has now, in order to prevent further misfortunes, reminded the Roman Catholic clergy of a Government decree, according to which the clerical treatment of persons showing symptoms of Hydrophobia can be commenced only when it has been proved to the priestly operator that the person bitten is already under medical treatment.

Correspondence.

THE CHAIN SAW IN VETERINARY OBSTETRICS.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—Had I supposed that you would have published my letter of the 4th ult., I would have been more explicit.

The chain saw I used is twelve inches long, and composed of segments about a quarter of an inch in length, one-eighth in width, and not quite one-sixth in thickness, and is of French manufacture. Although it answered well in my hands, I think one stronger would be better for veterinary embryotomy. I see by Messrs. Arnold and Son's list they sell a chain saw price 35*s*. If you would kindly inform me whether it is stronger than mine, and if not, whether they could manufacture one, and the price, you will confer a favour on myself and those gentlemen who have written to me respecting the chain saw.

To give further particulars of my case, I may state that I was sent for to attend a mare in labour, and on examination I found the fœtus partly on its side, with the head uppermost, and turned backwards, and the fore-feet protruding through the vulva of the mother. Owing to the great length of the pelvis of the mare, it was decided that it would be impossible to get the head forward for delivery; so I determined, if possible, to divide the neck. I cut through the soft tissues, and was about to pass a cord round the bony cervix to try and dislocate it; but remembering the chain saw in my case, I thought I would try it. So I attached a piece of whipcord, about a yard long, to each end of the saw, and passed it round the neck of the fœtus (owing to the position of the latter, I found there was not any danger of injuring the vagina of the mother), and commenced cutting, and, much to my gratification, I soon divided the bones of the neck. I then proceeded as stated in my last, and although the delivery of the foal reads tolerably easy, veterinary obstetricians will understand the difficulties to be overcome.

As it is necessary to divide the soft tissues before using the saw, I send you the pattern of an instrument I would suggest for that purpose (provided there is not one already made that would answer better), and shall consider it a favour if you will give an opinion upon it for the benefit of myself and brother practitioners. I think that, with a cutting instrument such as I suggest, it would be possible, when required to separate the fore-leg, to pass the knife behind the shoulder, and, with the aid of an assistant, cut the leg completely off. If it would effect this, there could be no doubt of its great service to veterinary surgeons in obstetric practice, as it would prevent that injury to the mother likely to ensue from the present method of tearing off the leg by sheer force. Not wishing to trespass further on your valuable space,

I remain, yours respectfully,

Sleaford, *May 10th*, 1877. J. HOOLE.

[With regard to the price of a stronger chain saw than that employed by

Mr. Hoole, we shall probably have something to say next month. We shall also allude to the chain sector; the idea is a good one, and worth carrying into practice. We shall endeavour to get one made, and send it to him for trial.]

CERTIFICATES OF SOUNDNESS.

To the Editor of the VETERINARY JOURNAL.

SIR,—In the course of my experience, I was consulted respecting a horse affected with "String-halt," which I believed had arisen from an injury recently sustained in the hunting field; for the defect had no existence antecedent to the accident, and I was unable to account for it otherwise. Eventually the "String-halt" disappeared with the resolution of the lesion.

The owner was much annoyed, having but a short time previously made the purchaser write, he said, a certificate of soundness. In searching for a cause likely to produce this exalted action, I naturally examined the hocks, and found both unsound from "Spavins"; and hearing that the said certificate bore a date of only six weeks ago, I asked permission to see it. It ran thus:—

"* * * certify that * have this day examined * * * years old, and * *do not detect any unsoundness.*" *

It was no part of my duty to comment upon the possible, not to say probable, existence of the spavins before the purchase, nor is it necessary here to do more than make this casual allusion to that subject, which has really little to do with the point I wish to discuss. I have only to deal with a class of certificate of which the italicized portion of the above furnishes an example—so striking, to my mind, as to draw forth the following observations.

Of all persons a veterinary surgeon is the least likely to meet with the certificates of his brethren, unless litigation or its avoidance be on the *tapis;* and therefore I am debating as to whether the above form is commonly adopted, or invariably evaded. To the latter opinion I incline: because, if the matter be reasoned out, it can scarcely be conceived that a system bound up in so much prevarication would be tolerated by any except the most inexperienced and confiding—certainly not by those who carefully study the inferential meaning of such a certificate. It does not afford the kind of assurance that would induce many to purchase horses for which large sums are demanded.

Moreover, the wording—which, let us presume, is not desired to appear evasive—might be regarded as a very transparent screen to professional short-coming, and, viewed under reflected light, may bear a deeper significance, if not a more disagreeable interpretation, than the utterer would care to have assigned to it.

It is one of those things, the quality and meaning of which must be gauged by the impression created on its non-advocates. They who adopt this shuffling style can, at most, only *hope* that it may meet with the kindliest forbearance at the hands of their clients.

We are not anxious to infer that this class of certificate is insinuative of disingenousness, equivocation, lack of earnestness of purpose, shirking of responsibility, nor that a worse construction could be put upon it. Certainly not; but we cannot blame the mind that reflects in this strain, though they are to be held culpable who provide the matter for such uncongenial thought.

* The italics are my own.

There needs no apology for looking the subject straight in the face, and dealing with it in a radical fashion, and, let us hope, for good.

If a veterinary surgeon *does not detect any unsoundness*, I consider he should feel himself bound to pronounce the animal *sound;* to which rule I would scarcely admit an exception, for it is clear that there is a vast difference between the implication of the one and the concise assurance of the other character of certificate.

The former does not imply soundness, though that may be desired as its purport; but the latter tersely expresses a freedom from unsoundness, which is what most men wish to be declared before completing a purchase. Again, "I do not detect any unsoundness,"—which may be foolishly regarded by the utterer as a species of professional compromise, whereupon to avoid legal complication and amercement,—infers that the examiner fails to detect something wrong that another person might have discovered immediately before, or may find directly after. It furnishes a loophole for escape in case of emergency, but affords no guarantee to the vendee that his purchase is sound. Hence, he who certifies that he does not detect any unsoundness might discharge his duty towards his client more faithfully.

A horse is either SOUND or he is UNSOUND, and these two words—with or without special or qualificatory remarks—ought to be the hard-and-fast tenor of every certificate.

A man who thoroughly understands his profession, and has no objection to impress the public with that fact, may safely, and will unhesitatingly, state his opinion on these matters in unequivocal terms, avoiding the paralogy of charlatanism; and having made a conscientious use of qualified ability, will not fear to courteously challenge other opinions on the same subject examined under similar circumstances, nor dread the result.

We do not preach infallibility. Doctors will always differ, as veterinary jurisprudence sadly testifies; but we do think that when a veterinary surgeon is required to construct a certificate on the results of his own examination, he should feel it incumbent upon himself, as well as his duty towards his client, and an obligation to the profession he represents, to eschew ambiguity and circumvention.

I beg to remain, yours respectfully,

RICHARD POYSER, V.S.,

York. "The Carabineers."

A REMINISCENCE OF THE ANNUAL MEETING, MAY 7, 1877.

To the Editor of the VETERINARY JOURNAL.

SIR,—I have been in a cogitative mood again this year over our annual meeting, and feel irresistibly impelled to pen my thoughts. We found ourselves assembled again in our old close quarters,—no mark of improvement here; but the report delivered showed most clearly that much had been done since our last assembly, and the thanks of the profession at large are due to the success achieved by our Council under their most excellent chief, our inestimable and disinterested President. And now we have such an incentive for improvement, such laurels to obtain, it will be our own fault if we fail to place ourselves in our true position as medical men of service and importance to the State, and a credit to our country.

When we have done this, the time will come when the State will appreciate our earnestness and feel disposed to tender us that helping hand we so much need to obtain,—the possession of a suitable edifice. Therefore, it now lies with those who cannot help with monetary aid to assist the cause with brain

power. Our Council knew well that to make a start "Quærenda pecunia primum." This they have done as far as they are able in the profession, and now must look for aid outside it.

On the Educational Test a few words may be said. Is it perfectly true that the educational test at present adopted is not sufficient? Every other college in Europe demands more. Here is an extract from a letter by an American gentleman signing himself "Harvard," in the *Spirit of the Times* of April 21st, p. 281, which may interest your readers :—

"I am requested to state to my countrymen the following: They will be allowed to enter the Royal Veterinary School of Prussia on the same terms as German civil students, and must have approximately the same standard of education as is required of both military and civil students, and must bring with them certificates from the proper educational boards in America, which must be undersigned by the American Minister in Berlin.

"The requirements are these: A student must not be less than eighteen years of age; he must be well educated in all English branches (what we call the high-school education), also in mathematics; must be educated in the elements of algebra and geometry (about the same amount as required to enter Harvard or Yale); also elementary botany, physics, and geology; and must besides be acquainted with Latin grammar, and be able to read Latin with some ease; German or French to the same degree will also be required. The school term is not less than three years. As I have said before, the tuition is 100 marks ($25) per year. There has been much discussion about the school term; finally it has been about decided to let it remain at three years, there being so much difference in students' ability. Civil students can study longer, but the limit of study for an army student will, probably, be fixed at four years.

"There is but one examination—that at the end. No matriculatory examination is required; the German students are only taken from certain schools and certain classes, when they must know the above to have the State certificate. It must be further added that, as this admittance of foreigners is a condescension of the Direction here, they are under no obligation to give to such persons the Prussian State diploma, and much depends on the personal character of the student whether he gets it or not.

"Feeling, as I do, an immense responsibility upon myself for the strong stand I have taken as regards veterinary education, it is my duty to my countrymen to say that the Berlin school is not perfect—that its immense excellence is in the manner of education, and the strong theoretical grounds it places one upon for the purpose of carrying on original work, as inferred in my review of the French schools. This school is not, practically, all it should be; the failure is partly a national one, and partly for want of more money each year. This want of practical fitness is, in reality, what belongs to the training-stable part of our knowledge—a failure in horsemanship—and is, to my mind, of little account to an American, and one which his own ready wits will carry him over in a short time in practice; and then he has that which no other school gives him so well—the basis by which he can do something for the future, and for his profession.

"To any of my countrymen who simply desire a fine practical knowledge, with some knowledge of theory, and the best surgical education in the world in our profession, I cordially recommend the school at Lyons, in France, recommended to me by M. Inspector Bouley, as the best of the three French schools. To those who desire perfection, I recommend the three years at Berlin, one year at Lyons, and six months with the English; then they may be sure they are fitted to make educated scientists of themselves."

It certainly appears that a Juvenis of a university would not be a mark too

high to class with the above ; yet with all education sound common sense is most valuable, and when thus properly balanced, our young practitioner will keep himself in a clear atmosphere when in a court or client's study ; or when debating at our meetings it cannot be said that "Quand celui qui écoute n'entend rien, et celui qui parle n'entend plus, c'est 'Metaphysique.'"

With the greatest consideration I pen my thoughts on "Bye-law 50." I do think that members whose career has been one of exemplary conduct as professional men, should be admitted to the Fellowship examination without the matriculation examination, if they have not the certificate of graduation in Arts at a university, "providing" they can produce a certificate of liberal education from some recognised public school ("to be found in Whitaker's Almanac, if you like"). I know that there are many men who, by their gentlemanly professional bearing, integrity, and moral courage, have done more (I say this without fear of offence) to elevate the profession by such deportment in the district wherein they reside, than many primaries selected for their V.P.M.A., "original research," etc. ; and however much an old boy may desire to emulate the young one, he would not like to go in for a matric. exam. with him. Being a public schoolboy myself, I know all about it, and can well remember, in 1849 and 1850, passing a fair and creditable examination ; but I am sure that many questions put and well answered then would go unanswered now. It will be a blessing to rural members when the local authorities cease appointing presumptuous farriers, horse doctors, and cow leeches as inspectors, and I am sorry to know that this is done under our President's nose. I trust the day is not far distant when the educational and scientific acquirements alone will be the passport used to introduce the practitioner to the notice of the country nobility and gentry, and that it will be no longer necessary to seek the post of clerk of the local course, or to be posted up in race meetings, etc., alone, for such introduction.

It will be well for us when the title of "veterinary surgeon" shall be used only by those duly authorised to assume it, and that no ex-coachman or groom shall be permitted so to designate himself. It may be surprising, but it is true, that only a few days since an experienced member of the profession was attending a horse belonging to one of our opulent brewers, when he was asked if he objected to a consultation with another practitioner. He agreed, of course. Judge of his horror and surprise to find the big brewer had one of these pseudo-practitioners in the stable to meet him. I need scarcely add that our member left in disgust.

"And shall be individually known or distinguished by the name or title of Veterinary Surgeon, exclusive of all others," etc.

What does this mean? or is it meaningless? Also, it will, I think, be a mark of no mean advantage when the blacksmith's business is severed from the veterinary medical profession.

I do think that the above tends most seriously to impede us, and to cast very bad influences on our profession.

In conclusion, I was sorry to notice the absence of many old faces, and our worthy veteran the Principal of the Royal Veterinary College. The absence of the former I attributed to our new system of voting, but as to the latter I am at a loss. Nothing should deter those who have the profession at heart :

"No god is absent where calm prudence dwells."

I am, yours,

"ARTEMUS SECUNDUS."

UNQUALIFIED PRACTITIONERS.

To the Editor of the VETERINARY JOURNAL.

SIR,—Having read Sir F. Fitzwygram's speech delivered at the Yorkshire Veterinary Medical Meeting held at Leeds, and published in your April *Journal*, I will, with your permission, make a few observations thereon, in reference to that part of Sir Frederick's speech bearing on the protection clause against unqualified men. In alluding to this subject, he states that the Council withdrew the clause, because their legal adviser told them it could not be granted, as it would interfere with the liberty of the subject. If that is true, how is it that the medical profession already possess such a clause? Further, he states, that the best qualified practitioners do not desire protection. This is contrary to my experience; for I have heard some of the most eminent men in the profession regret, over and over again, that we have not protection against quackery, and I have also heard it said by many that they only regretted they were members of the veterinary profession. Sir Frederick likewise asserts that the best men will always have the preference. In that I agree with him; but still, it is well-known that in country districts, to every qualified man there are something like half a dozen quacks. Being surrounded by such gentry, and each one, we will say, only doing a limited amount of business, this must undoubtedly tend to fret away the veterinary surgeon's income, although he does not have the preference. It is to be apprehended that Sir Frederick is not aware of the many drawbacks country veterinary surgeons have to contend with.

During the last ten years, within eight or nine miles of my place of business, no less than *five* self-made "veterinary surgeons" have sprung into existence—one a grocer's assistant who had lost his character, two castrators of pigs, another a low butcher, and the last a retired blacksmith, who signs his name with a cross—certainly great ornaments to the profession, for all of them have assumed the title of Veterinary Surgeon. If I were to enumerate some of the nostrums they employ for the treatment of disease, no doubt many would discredit my statement; therefore I will pass that by. When such a deplorable state of things is known to exist, not only have we reason, for the credit of the profession, as well as in the public interest, to expect protection against such impostors: I have no doubt that if the matter were properly brought before Parliament, the protection clause or an Act would be granted; inasmuch as it would be a benefit to the country, and many valuable animals would be saved thereby. The position of the veterinary surgeon is more unenviable than that of any class of persons; for instance, if even a match-maker finds out an improved method of manufacturing matches, he can patent his discovery and protect himself; but the veterinary surgeon, after years of study and spending a little fortune in gaining his diploma, is not much better off than the groom who may come next door and set himself up, with a large sign "Mr. So-and-so, Veterinary Surgeon." And against such an upstart there is no remedy. I knew, a few years ago, one of these impostors placing after his name the letters M.R.C.V.S. Incredible as it may appear, yet I am satisfied that many other members of the profession could record similar cases. I believe I have written enough to convince every one that a protection clause is indispensable; though I could say a great deal more on the subject if time would allow me to do so. However, I may have something further to advance on a future occasion. Apologizing for troubling you,

I am, yours truly,

"BONES."

CORRIGENDA.

With regard to the list of students who passed the examination of the Royal College, and which appeared in the May No. of the *Journal* (p. 378-9), we are requested to state that Mr. Eward Moore's address is 116, Washington Avenue, Albany, U.S.; also that William *Howan* Pringle should read William *Slowan* Pringle.

ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS from Professor Walley, D. S. Brown, G. Fleming, J. B. Martin, W. A. Cox, and others, will appear in our next.

RESPONDIT.—1. The regulations for the Fellowship degree state:—"Each candidate, other than a Professor or ex-Professor at a school affiliated with the Royal College of Veterinary Surgeons, will be required to produce a certificate of graduation in Arts at a University, to be recognised for this purpose by the Council, or a certificate of liberal education after an examination by the College of Preceptors under the direction and supervision of the Council." 2. The person you name is on the register of the Royal College. 3. There are only two *weekly* veterinary periodicals—the *Wochenschrift für Thierheilkunde*, published in Germany, and the *Veterinaria Española*, issued at Madrid. 4. Salicylic acid has been employed in veterinary medicine on the Continent, but we have not heard of its being used in this country.

A VICTIM draws attention to the unscrupulous manner in which purchasers of veterinary practices advertised for sale are often imposed upon by misrepresentations, and suggests that a registry be established where those who have practices to sell, as well as those who wish to purchase, should pay a fee for all information relative to them, and a commission when the purchase is completed.

Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from A. Sharp, Coleshill; Professor Smith, Toronto; "Bones"; C. Marking, Toppesfield; "Respondit"; Professor McCall; D. S. Brown, Montreal; Professor McEachran, Montreal; Dr. Thin, London; H. E. Armstrong, M.R.C.S., Newcastle-on-Tyne; "Pleximeter"; A. Johnston, Edinburgh; R. Poyser, "The Carabineers," York; J. B. Martin, Rochester; J. Hoole, Sleaford; J. Howard, Woolwich; R. G. Walters, Newport, Salop; J. W. Gloag, Dublin; W. A. Cox, Manchester.

BOOKS: Typhus Contagieux: Recueil des Lois, etc., concerning; *Professor Turner*, General Observations on the Placenta, with especial reference to the Theory of Evolution; *Lanzillotti Buonsanti e G. Pini*, Dizionario dei Termini, etc., delle Scienze Mediche e Veterinarie (fasc. 10, 11); Annual Report of the Veterinary Department of the Privy Council; *G. Thin, M.D.*, An Introduction to Practical Histology; Reports of the Medical Officer of the Privy Council.

JOURNALS: *Archivio di Medicina Veterinaria; American Veterinary Review; Archives Vétérinaire; Revue Vétérinaire; Recueil de Méd. Vétérinaire; Wochenschrift für Thierheilkunde; Live Stock Journal* (American); *Veterinaria Española; Agricultural Students' Gazette; Journal of the National Agricultural Society of Victoria; Annales de Méd. Vétérinaire; Deutsche Zeitschrift für Thiermedicin; Der Thierarzt; Journal de Méd. Vétérinaire et de Zoötechnie; Repertorium der Thierheilkunde.*

NEWSPAPERS: *Farmer; North British Agriculturist; Mark Lane Express; Live Stock Journal; Agricultural Gazette; Country; Field; Bradford Observer; Times; Melbourne Medical Record; Farmer's Gazette; Edinburgh Courant; Scotsman; British Medical Journal; Lancet; Edinburgh Medical Journal; Gloucestershire Standard; Broad Arrow; New York Spirit of the Times; Bell's Weekly Messenger; Irish Times.*

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, whether he may desire to have it published or not. Anonymous letters and articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors. Communications for insertion in the next number must arrive on or before the 15th of the present month.